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Developing a model to test the predictors and consequences of the amount of time school-age children spend in self-care

Payne, Cathy Chris, Ph.D.

The University of North Carolina at Greensboro, 1989

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DEVELOPING A MODEL TO TEST THE PREDICTORS AND CONSEQUENCES OF THE AMOUNT OF TIME SCHOOL-AGE CHILDREN SPEND IN SELF-CARE

BY

C. Chris Payne

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

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Approved by

Dissertation Adviser

APPROVAL PAGE

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PAYNE, CATHY CHRIS, Ph.D. Developing a Model to Test the Predictors and Consequences of the Amount of Time School-age Children Spend in Self-care. (1989) Directed by Dr. Hyman Rodman. 121 pp.

The purpose of this study was to develop and test a model of the predictors and consequences of the amount of time children (in Grades K-6) spend in self-care. Specifically, this study investigated the role of parents' perceptions as predictors of the amount of time their children spend in self-care and the consequences of that amount of time in self-care on the child and parent outcomes of stress and satisfaction with the care arrangement. The sample consisted of 812 children (in Grades K-6). The students' classrooms were randomly selected from 11 school systems which were randomly selected, stratified by population density, from across North Carolina.

A structural equations model utilizing path analysis was used to examine the relationship among the exogenous variables (parental perceptions), endogenous variables (child and parent outcomes of stress and satisfaction), and the mediating variable (amount of time in self-care). The LISREL VI program available through SPSSX was used to test and to modify the a priori conceptual model from which the hypotheses of this study were derived. Data from this study indicate that the conceptual model of the predictors and consequences of the amount of time children spend in self-care may be specified to substantively explain the contexts surrounding the use of self-care arrangements.

Results of this study indicated that the greater the weekly amount of time a child spends in self-care, the less parent stress, less child satisfaction, and more parent satisfaction. Also, the more voluntary the choice for the care arrangement, the less time in self-care and the less parent stress. The greater the accessibility to help, the greater the weekly amount of time in self-care. The most significant relationship was demonstrated by the influence of parent stress on child stress.

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First, I would like to thank my adviser, Dr. Hyman Rodman, Excellence Foundation Professor of Child Development and Family Relations. His warm support and generous help have been a consistent stabilizing force in my life. Our research project during the past year has provided me with one of the most meaningful experiences in my professional life. Hy's commitment to "getting beyond the myth" will forever influence my thinking.

I would also like to thank the members of my committee for the kind help and thoughtful insights they have provided throughout this experience. Each, in their own way, has helped me to "stretch the limits" of my existence. Special thanks to Dr. Rebecca M. Smith, Professor of Child Development and Family Relations, who was a continual reminder that life without challenge was not living. Thanks to Dr. Dale Brubaker, Professor of Education, whose commitment to liberation in learning and in leadership has captured the essence of education. And to Dr. Nancy White, Associate Professor

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This research could not have been completed without the support and assistance of several organizations and individuals. I would like to thank Project Home Safe, a joint initiative of AHEA and the Whirlpool Foundation, for their support of the larger Rodman and Payne study of which this dissertation is a part. From the North Carolina Department of Public Instruction I would like to thank Dr. Craig Phillips, past State Superintendent of Public Instruction, and Laura Mast for their gracious cooperation and assistance. Special thanks to Dr. Deborah Godwin, Associate Professor of Family Economics at the University of Georgia, who provided the vision that our conceptual "realities" could be modeled and tested through the use of structural equations; and to Dr. Grace Kissling, Assistant Professor of Mathematics, who was instrumental in translating that vision into reality.

Finally, very special thanks to my parents, Robert and Catherine Payne, who provided spiritual support and were the best of grandparents during this time; and to my children, Ryann and Patrick, who mothered me more than I mothered them. To you I say "Thank you. Thank you. Thank God for you the wind beneath my wings."

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CHAPTER I

INTRODUCTION

Over the last decade, there has been growing concern about the numbers and fate of school-age children who are left alone in their homes during out-of-school hours. Policy decisions, moral judgments, and internalized guilt have often been based on misdrawn conclusions that self-care arrangements have negative consequences for children. In many cases, these conclusions extend beyond the available empirical evidence. Rodman (1988) and others see this situation as being analagous to the earlier history of the negative reports about day care and working mothers. Rodman chastens us to recall, for example, the 1950s and the 1960s when most people believed that the use of day care jeopardized children's development. Further research disproved these beliefs and indicated that intervening variables were important in moderating or enhancing the effects of day care on children's development (D'Amico, Haurin, & Mott, 1983; Etaugh, 1980; Hoffman, 1979). This scenario of presumed negative consequences seems to be repeating itself. Again, intervening variables seem to be of great importance. The family and neighborhood contexts within which self-care is used may be of critical importance. Parents' reasons for using this type of care arrangement must also be considered.

Conclusions are being drawn and decisions are being made based more on a drama being played out in the media than on sound theoretical and empirical evidence. Practitioners and policymakers often advocate for the development of after-school care programs based on the assumption of the negative consequences of self-care arrangements. Teachers, neighbors, and relatives often pass moral judgment on a parent who decides to use self-care based on presumed negative consequences. And parents often live with the guilt of leaving their child in a self-care arrangement based on nothing more than presumed negative consequences. McAninch (1987) asserts that "to ethically advocate for or against any intervention strategy, family researchers need to develop clearer concepts of what the current status might be" (p. 42). The potential negative consequences for children and families are too serious to set aside without further study, while many of the proposed solutions are too costly to implement without clear evidence of their usefulness and practicality.

The purpose of this study was to develop and test a model of the predictors and consequences of the amount of time children (in Grades K-6) spend in self-care. Specifically, the study focused on the role of parents' perceptions as predictors of the amount of time their children spend in self-care and the consequences of amount of time in self-care

on the child and parent outcomes of stress and satisfaction. The study has been designed with the intent of remedying many of the methodological flaws of past research and of building on the strengths of the quality studies which have been done. This study is being conducted for the following reasons: (a) there is widespread, intense concern on the part of parents, policymakers, media personnel, and family life professionals (among others) about the factors that contribute to the use of self-care and about the impact of this arrangement on children's development; (b) conclusions about the predictors and consequences of the self-care arrangement have been drawn on the basis of a small number of research studies; (c) most of the studies conducted to date have serious methodological problems or are too limited in scope to provide the basis for a clear understanding of the impact of self-care on children and families.

Perhaps nowhere in the area of child development have conclusions about the deleterious effects of a care arrangement been based on such a sparse and methodologically weak body of literature as in the area of self-care. Numerous problems exist due to small, nonrepresentative, and often biased samples. Moreoever, diverse populations and samples have been placed under the self-care umbrella. Therefore, general conclusions cannot be authoritatively drawn concerning the effects of self-care arrangements on all children.

To reduce confusion, the following definition will be used: "A self-care child is one between the ages of approximately 6 and 13 years who spends time at home alone or with a younger sibling on a periodic basis" (Rodman, Pratto, & Nelson, 1988).

If there is to be a clearer understanding of the impact of self-care on children, then careful attention must be given to the contexts in which the care arrangement occurs. Yet, there has been only one study to date which accounted for rural and urban differences in the effects of self-care arrangements on children (Stewart, 1986). Perhaps the conflicting findings of previous research were due more to this context rather than to the self-care arrangement itself. For example, Long and Long's (1982, 1983) research sampling elementary school children in a somewhat threatening urban environment found negative consequences exhibited through fear, loneliness, and boredom. Yet, similar research conducted in a safe, rural setting (e.g., Rodman, Pratto, & Nelson, 1985) did not find significant differences between self-care and adult-care children on measures of self-esteem, locus of control, social adjustment, and interpersonal relations. Methodologically, our knowledge of this phenomenon could be strengthened by sampling from rural, suburban, and urban populations within the same study.

A major concern with past research has been that care arrangement has been dichotomized as adult-care versus

self-care. Since most children beyond the age of 8 spend some time each week in self-care (if only 10 minutes a week), this dichotomy does not seem to be a realistic representation of the construct. Rodman and Pratto (1987) have strengthened the current research by treating amount of time in self-care as a continuous rather than a categorical variable.

Disregarding the impact of the many variables which may influence care arrangements has also been a weakness of past research. Only recently have such variables as teachers' perceptions, parents' perceptions of a child's maturity, neighborhood characteristics, monitoring arrangements, parents' degree of traditionalism versus modernity, and whether the choice for self-care is voluntary or involuntary been addressed as possible predictors of children's amount of time in self-care.

The consequences of self-care arrangements have also been inadequately understood due to the lack of viable and realistic outcome variables. Perhaps based on the traditional outcome measures in child development or perhaps based on the need to cling to standardized instruments, most self-care studies have focused on outcomes such as academic achievement, intelligence, and rather global measures of social adjustment. More attention needs to be given to such measures as parent and child satisfaction with the arrangement and levels of child and family stress. Honig (1986)

has suggested that "being a latchkey child after school" may produce stress (p. 51). This is a variable that has not yet been studied in any of the research on self-care children.

The issue of self-care concerns not only children but the families and communities within which they reside. Therefore, self-care should appropriately be studied within the context of the family and the community, beginning with the inclusion of contextual (familial, neighborhood, cultural, and historical) and not merely individual (child) level constructs.

This study addressed the following two research questions: (a) How do parents' perceptions relate to the decision to use self-care and consequently the amount of time their children spend in self-care? (b) How does time in self-care mediate the relationship between parents' perceptions and the outcomes of child stress, parent stress, child satisfaction with the care arrangement, and parent satisfaction with the care arrangement?

Conceptual Framework

Stress is a variable which has not been studied in relation to self-care. Based on a perusal of the stress literature, it appears that current interactive (Chandler, in press) and transactional (Lazarus & Folkman, 1984) paradigms of stress offer promising theoretical linkages to self-care research. Recently two significant trends have

emerged in stress research which provide a theoretical framework for the proposed conceptual model of the predictors and consequences of children's amount of time in self-care.

The first trend has been a shift in how stress is conceptualized as a stimulus. Historically, stress has been viewed theoretically as significant life events affecting physiological and psychological outcomes. Currently, stress has also been conceptualized as "daily hassles." Although daily hassles are far less dramatic than significant or catastrophic life events, they may be even more important in adaptation and health (Lazarus & Folkman, 1984). The need to make child care arrangements and the use of self-care for some children and families may be viewed as a daily hassle.

A second trend, recently emerging in the stress field, also offers an underlying theoretical framework for the proposed research. This has been a move from a purely stimulus-response conceptualization of stress to more interactive and transactional paradigms which include mediators between the origins and manifestations of stress (Pearlin et al., 1981). An important mediating role is played by cognitive appraisal or perceptions (Lazarus & Folkman, 1984). While the conceptual model that has been posed will not strictly adhere to this recent paradigm (origins, mediators, and manifestations) of stress, it will rearrange these

critical elements into a model which examines parents' perceptions (cognitive appraisals) as constraints on self-care decisions which in turn affect child and parent stress outcomes.

Boss's (1988) work on a family stress theory provides a parallel sociological conceptual framework to the psychological frameworks offered by Pearlin et al. (1981), Lazarus and Folkman (1984), and Chandler and Shermis (1988). Perception, both at the individual and familial level, is central to family stress theory. Boss (1988) places family stress within a broader sphere which she terms the external context, that includes heredity, development, economy, history, and culture. The external context is beyond the control of the family, yet has a tremendous influence on how the family perceives and manages potentially stressful situations. While the use of self-care may be seen as a normal developmental milestone during the middle childhood years, the impact of our contemporary culture and history often influence parental perceptions about self-care.

Ideally, to study the impact of self-care on children's development and family functioning, it should be placed within the family stress paradigm. Self-care could be viewed as a potentially stressful situation, mediated by individual and familial perceptions and resources, which in turn have been influenced by the broader external context. The result

would be positive or negative (stressful) outcomes. Due to the limitations of this study and the comlexities and scope of the "ideal study," resources/coping variables and the external context variables will not be addressed. Several of these variables will be considered in a larger study by Rodman and Payne (1988).

CHAPTER II

REVIEW OF THE LITERATURE

The effects of self-care arrangements on school-age children has been a topic of popular concern, media attention, and armchair commentary during the past decade. Empirical research in this area, however, has been sparse and often methodologically weak, making it difficult to reach authoritative conclusions.

Strong opinions regarding self-care are found today among many professionals concerned with children and families. David Elkind, psychologist and author of The Hurried Child (1981), contends that latchkey children are expected to assume too much responsibility at too young an age. He maintains that this will lead to stress and may inhibit the developmewnt of mature functioning in adulthood. Edward Zigler asserts that "latchkey arrangements represent a serious abdication of responsibility toward our nation's children" (1983, p. 38). James Garbarino (1984) suggests that when children are forced to care for themselves it is a deprivation of their childhood. While these opinions have been the impetus for public concern and policy decisions, they remain ungrounded in empirical evidence.

John Merrow (1986), in a commentary for National Public Radio, states that terms such as "self-care" and "survival

skills" are linguistic cop-outs that obscure a serious and widespread evasion of social responsibility that threatens many of our children. The use of these terms, however, is not necessarily an evasion of responsibility. Their use may be viewed as an attempt to remove the connotation of presumed negative consequences from the children in these arrangements and their parents. Many parents utilize self-care arrangements for lack of better options or resources. Other parents choose this care arrangement purposely and carefully.

Related Research on Maternal Employment and Day Care

During the past 40 years, similar concerns were voiced regarding the "negative effects of maternal employment and day care on children's development. Yet, empirical evidence has not been found to support these beliefs.

Numerous studies have been conducted since 1950 on the effects of maternal employment on children's cognitive, psychological, and social development and functioning. Most of the recent studies have concluded that a mother working outside the home has neither positive nor negative effects on her children's development (D'Amico, Haurin, & Mott, 1983; Heyns, 1982; Hoffman, 1979; Kamerman & Kahn, 1981). Few of these studies have considered the effects of child care arrangements on working parents. Often they have erroneously

assumed that continuous and adequate arrangements were utilized. Due to these omissions, the research on maternal employment is "inadequate for answering questions on the effects of self-care on children's outcomes" (Seligson et al., 1983, p. 15).

Another area of related research has been on the effects of day care for preschool children (Belsky, 1988; Belsky & Steinberg, 1978; Etaugh, 1980; Rutter, 1981; Scarr, 1984). This research has failed to substantiate earlier findings of the adverse effects of this child care arrangement on children's development and parent/child relationships, although currently the debate has surfaced anew (see Belsky, 1988).

Predictors of the Use of Self-Care

Statistics reported by the U.S. Bureau of the Census (1987) in After-School Care of School-Age Children provide the best information, to date, of the predictors of the use of self-care arrangements. These data indicate that maternal employment status, maternal marital status, age of the child, maternal education level, and household income level are all significant predictors of the use of self-care arrangements for children. There is a greater use of self-care for those children who are older, whose mothers are employed, who reside with a single parent, whose mothers have higher levels of education, and whose families have

higher incomes. Race was not found to be a significant predictor of the use of self-care.

Rodman and Pratto (1987), using a magazine-distributed questionnaire, obtained responses from 1,194 mothers whose children under age 14 were in self-care arrangements. They found child's age and mother's hours per week in paid employment to be significantly related to the greater use of self-care arrangements. Mother's frequency of attendance at religious services was related to lesser use of self-care. Mother's marital status showed a less clear relationship to self-care use.

Cognitive Appraisal as it Relates to Parental Perceptions and Self-Care

The use of self-care may provide positive outcomes for certain children, under certain conditions, and negative outcomes for other children under other conditions. It is the critical balance of the child's individual development and temperament in interaction with his environment which results in positive outcomes for some children while resulting in negative outcomes for others. The literature related to the role of cognitive appraisal within a broader stress theory framework offers potential insights into teasing out these differences in children's developmental outcomes as they relate to the use of self-care.

Lazarus and Folkman (1984) define cognitive appraisal as "the process of categorizing an encounter, and its various

facets, with respect to its significance and well-being" (p. 31). It is not information processing per se, in the sense used by Mandler (1975) or Erdelyi (1974). Rather, it is largely evaluative, focusing on the meaning or significance of an event or situation. Cognitive appraisal takes place continuously during waking life (Lazarus & Folkman, 1984).

Stress appraisals include harm/loss, threat, and challenge (Lazarus & Folkman, 1984). Parents and children may perceive self-care as either a threat or a challenge. An appraisal of harm/loss occurs when an individual has already sustained some damage to his person. This might be in the form of a physical injury or illness, recognition of some damage to self-esteem or to social esteem, or the loss of a loved one or a valued person.

Threats involve anticipated harms or losses. Even when a harm or loss has occurred, it is always compounded by a threat because loss implies negative implications for the future. "The primary adaptational significance of threat, as distinguished from harm/loss is that it permits anticipatory coping" (Lazarus & Folkman, 1984, p. 33).

The third kind of stress appraisal is challenge. Like threat, challenge elicits the mobilization of coping strategies. The primary difference is that challenge appraisals focus on the potential for gain or growth inherent in an

encounter. Challenge appraisals are characterized by positive emotions such as eagerness and excitement, whereas threat focuses on the potential harm of a situation and is characterized by negative emotions such as fear, anxiety, and anger.

Threat and challenge appraisals are not to be considered as poles of a single continuum, but rather as separate yet often related constructs. A situation may involve the potential for both risks and gain. Self-care is developmentally such a situation for children. Threat and challenge appraisals are distinguished from one another by their cognitive component (the judgment of potential harm or loss versus mastery or gain) and their affective component (negative versus positive emotions).

A wealth of literature exists concerning how children and their parents "cognitively appraise" stressful significant life events (illness, death of a parent or sibling, and particularly divorce). Yet, there is little research which deals with the appraisal of "daily hassles" or potentially stressful developmental milestones. To date, no research has addressed parental or child perceptions in the use of various child care arrangements.

The Effects of Self-Care on Social Adjustment and Academic Achievement

Long and Long (1982, 1983) found that children in self-care exhibited such negative consequences as increased fear,

loneliness, and boredom. Based on their sample of elementary school children living in a highly threatening urban environment, they concluded that all children face the likelihood of such negative consequences. Similar research conducted in safer, more rural settings (e.g., Rodman, Pratto, & Nelson, 1985; Woods, 1972) found no differences between self-care and adult-care children on measures of social adjustment. Vandell and Corasaniti (1988) found no differences between latchkey and mother-care children in terms of their classroom sociometric nominations, conduct grades, self-reports of self-competence, or parent and teacher ratings of peer relations, work/study skills, emotional well-being, and adult/child relationships. However, significant differences were found for children who attended day care centers after school. These children received more negative peer nominations, made lower grades, and scored lower on standardized achievement tests than either the self-care or mother-care children. Steinberg (1986) found no overall differences in self-care and mother-care children in susceptibility to negative peer pressure. Stewart (1986) found children in self-care had higher levels of school maladaptation.

Five studies have compared the academic performance of self-care children with adult-care children. Galambos and Garbarino (1983) and Vandell and Corasaniti (1988) found no

significant differences between the groups in academic achievement. Stewart (1986) found self-care children obtained lower scores on standardized reading and math tests, although these findings did not reach significance. Gold and Andres (1978) obtained similar results (nonsignificant differences in academic achievement) for males who were unsupervised. Woods (1972) found significantly lower academic achievement for unsupervised girls but not for boys.

The Effects of Self-Care on Parent and Child Satisfaction

Only one published study to date has specifically addressed the relationship between the use of self-care and parental satisfaction. Brown, Pratto, and Rodman (1989) examined social relationships as determinants of parental satisfaction with self-care arrangements for children. Age and competence of the child and good social relationships by both mother and child significantly contributed to mother's satisfaction with self-care arrangements. Mothers of older (above 9 years of age) children were more satisfied with the self-care arrangement. Surprisingly, greater satisfaction was also found among those mothers who maintained less communication (via special instructions left and/or telephone calls) with their children during the self-care situation. When controlling for age, these results were not statistically significant for the mother's leaving written instructions and

phoning the child but remained significant for the child phoning the mother.

Social contact with friends in one's home was associated with a higher proportion of mothers who expressed satisfaction with self-care. A stronger relationship of satisfaction with self-care was found among mothers who were not employed full-time. Three other social relationships were also significantly related to satisfaction. Those mothers who reported getting along well with their children, who liked their work, and whose children related well with other children expressed greater satisfaction with self-care. These relationships did not significantly vary with child's age or maternal employment status.

Stewart (1981), in a study of 675 third- and fifth-grade children in a rural, southeastern school, investigated the satisfaction levels of self-care children and their parents based on five factors (amount of time in self-care, sex of child, grade level, presence of sibling, and voluntary or involuntary use of self-care). Data were obtained through parent surveys and child interviews. Analyses performed using stepwise multiple regression indicated that these five variables accounted for 34% of the variance in parental satisfaction level. The variable voluntary or involuntary use of self-care accounted for the major portion (29%) of the total variance. Stewart (1981) concluded that other

variables are needed to investigate the relationship of self-care arrangements to parental satisfaction.

Closely related to parental satisfaction with self-care is the variable parental preference for self-care. Cain and Hofferth (1989) examined U.S. Census data (1984) to determine parental preferences in the choice of care arrangements for school-age children. The factor most affecting parental preference for self-care was the "quality" of that arrangement. This was determined by the age of the child, the environment of the child (proxied by income and residence), and cost factors (proxied by the availability of substitute caregivers in the home).

Related Research on Stress

Stress is a variable which has not been studied in relation to self-care. There is growing evidence to suggest that contemporary social forces are placing today's children under considerable stress (Chandler, 1982). Poverty, divorce, single-parent families, remarried families, teenage mothers, and maternal employment are all factors that may result in deleterious outcomes for children and families. Another issue, which is often intertwined with the preceding factors, is the impact of various forms of child care on children's development. Census data (1984) indicate that the majority of children today receive their primary care from alternate (nonparental) caregivers and a growing number of

children may be in self-care (latchkey) arrangements for some portion of the day. The reality of childhood may include more emotionally hazardous situations than policy-makers or the public would like to believe. "Stress, environmental disorganization, and emotional or material deprivation are part of the daily experience of large numbers of children" (Felner et al., 1985). Even the most conservative estimates indicate that 10%-20% of all children may be in need of intensive mental health services (President's Commission on Mental Health, 1978).

While catastrophic or significant life events (e.g., death of a parent, divorce, severe illness) have been extensively addressed in research concerning children and stress, recent thinking has indicated that "daily hassles" may be of even greater importance in adaptation and health (Lazarus & Folkman, 1984). Issues concerning child care may be considered a "daily hassle" for many families and their children. In particular the use of self-care may be viewed in this manner. For these reasons it is critical to address the impact of various child care arrangements on children's and families' well-being and levels of stress. To date, no research has examined the relationship of child care arrangements and the various factors contributing to their use to outcomes of child and family stress. The relationship of stress to both emotional and physical well-being is well

documented (Selye, 1976). Child and family research must begin to extend the current paradigms of stress to include notions of how daily events (such as child care arrangements) may precipitate stress and therefore have detrimental health outcomes. One must also begin to examine the mediating effects of parent and child perceptions between stressful events and emotional and physical health outcomes.

Amount of Time in Self-Care

A better understanding of the self-care construct may be achieved by looking at within-group differences in the population rather than considering only between-group differences. Steinberg (1986) and Belsky and Steinberg (1978) view this as a means to strengthen research in the child care area. In the past, self-care has been studied by comparing it to adult-care through the use of a self-care versus adult-care dichotomy. Rodman and Pratto (1986, 1987) maintain that it would be a more realistic representation of the construct to view self-care as a continuous variable. Otten (1985) contends that the amount of time a child is in self-care is related to legal and policy issues, therefore of extreme practical significance. Rodman and Pratto (1986) found a statistically significant relationship between geographic region and hours per week in self-care. The South accounted for the highest percentage of hours per week in self-care.

Directional Hypotheses

The major research questions of this study were as follows: (a) How do parents' perceptions relate to the decision to use self-care and consequently the amount of time children spend in self-care? (b) How does time in self-care mediate the relationship between parents' perceptions and the outcomes of child social adjustment, child stress, parent stress, child satisfaction with the care arrangement, and parent satisfaction with the care arrangement? Based on this review of the literature and related theory, the following directional hypotheses were proposed:

1. Parent's perception of voluntariness of the care arrangement will not be a significant predictor of children's amount of time in self-care.
2. Parent's perception of accessibility of help for the child will be a significant positive predictor of children's amount of time in self-care.
3. Parent's perception of safety of the neighborhood will be a significant positive predictor of children's amount of time in self-care.
4. The amount of time in self-care will have no effect on child's social adjustment.
5. The amount of time in self-care will have no significant effect on child's academic functioning.
6. The amount of time in self-care will have a significant positive effect on child's level of stress.

7. The amount of time in self-care will have a significant positive effect on parent's stress level.
8. The amount of time in self-care will have a significant positive effect on child's satisfaction with the care arrangement.
9. The amount of time in self-care will have a positive effect on parent's satisfaction with the care arrangement.
10. There will be a positive significant reciprocal effect between child's stress level and parent's stress level.
11. There will be a positive significant reciprocal effect between child's satisfaction with the care arrangement and parent's satisfaction with the care arrangement.

CHAPTER III

PROCEDURES

Research Design

An ex post facto cross-sectional design was used which employed a multivariate path analytic model. The use of a cross-sectional research design offers the advantage of controlling for the threats to validity posed by history and mortality. Yet, a major potential limitation of cross-sectional designs is ambiguity about the direction of the effects. To control for this threat to validity in the sample selection process, subjects must have been in self-care for one month prior to data collection to remain in the sample. Other potential threats to validity with the use of cross-sectional designs may be the large amount of variation in the variables of interest and random heterogeneity. To control for these possible threats, a generous sample size was desired. The final sample of 812 children greatly exceeds the 280 (30 subjects per grade level) needed to meet the 10 per exogenous variable rule for sample size. Having met the sample size requirement for each grade level will allow for separate analyses to be conducted (by grade) where desired.

A conceptual cross-sectional model for explaining the causal antecedents of self-care and the effects of self-care

on important child and parent outcomes is shown in Figure 1 (see Appendix A). This model, based on a review of the literature, reflects the current state of knowledge concerning the complex relationships among the conditions of self-care, the antecedents of these conditions, and the consequences of self-care for children and their parents. The conceptual model was framed to address several concerns Rodman and Payne (1988) raised regarding the sparse and inconclusive body of self-care literature that now exists. These concerns are as follows: (a) neighborhood characteristics, as well as child and family characteristics, should be considered as significant contexts of the decision situation; (b) parents' perceptions are critical if we are to clearly understand the decision to use self-care arrangements (three perception variables that have been inadequately investigated in past research have been included); (c) the amount of time in self-care is an important mediating variable and must be treated as an interval level variable; (d) other important outcome variables must be examined, such as child stress and parent stress; (e) it is necessary to pose a "complete" model that presents both the antecedents and consequences of the amount of time children spend in self-care if we are to more realistically understand the self-care issue.

Description of Subjects, Subject Selection, and Sites

Using the Dalenius and Hodges procedure (Jaeger, 1984, pp. 76-83), a stratified random sample of 12 North Carolina counties was selected. Population density was used as the stratification variable because the research literature suggests that it is related to amount of time in self-care, and to several other variables of interest, such as perceptions of neighborhood safety and of accessibility of help. Population density is a readily available and continuous index of rural-urban composition (North Carolina State Data Center Newsletter, Vol. 8, 1986), and several studies have referred to the potential importance of rural-urban differences in self-care arrangements.

From each of the 12 counties selected, an elementary school (or pair of schools) was randomly chosen. Eleven of the 12 schools selected agreed to participate. From these schools a class from each grade level, kindergarten through Grade 6, was selected. Approximately 220 students per grade level were surveyed. The final sample consists of 812 children. To be included in the final sample, a completed parent questionnaire, signed parental permission to interview the child and to obtain access to school attendance records and standardized test scores, a completed child interview, and a completed rating form by the child's teacher were required.

Dr. A. Craig Phillips, then state superintendent for the North Carolina Department of Public Instruction, approved this research and sent a cover letter to the local superintendents and principals involved that elicited their assistance. The random selection of sites allowed for a wide range of variability to be tapped. Random selection will greatly enhance the generalizability of these findings and will overcome some of the weaknesses due to the purposive convenience sampling of many past studies.

Description of Variables

Exogenous Variables

Three exogenous variables were examined as causal antecedents of the amount of time children spent in self-care. They are measures of the parent's perceptions of the neighborhood or of family circumstances. They include safety of the neighborhood, accessibility to help, and choice for the type of care arrangement (voluntary or involuntary due to the lack of options or resources). They are considered to be perception variables because parents, in making their decision about self-care, are basing these decisions on percpetions of the safety of the neighborhood, etc.

Measures of the three exogenous variables were obtained from the parent's response to various questions and scales in the Parent Survey. The Parent Survey is explained in the following section, "Description of Instruments Used for Data

Collection," and is included in Appendix B. Safety of the neighborhood was measured from the parent's response to the question, "How safe do you consider your neighborhood to be?" Responses on a 5-point Likert-type scale range from very safe to very unsafe. A measure of accessibility to help was gathered from both parent and child responses. Specific questions were asked concerning what a child would do in case of an emergency, who would they call, and the time required for this help to reach the child. A score was obtained by summing the number of people close by and accessible to help in an emergency. The Parent Survey contained several questions which were used as measures of perceived voluntariness of the care arrangement. Parents were asked why they chose the care arrangement they were currently using. Questions were asked of both parents and children regarding the type of care arrangements they preferred and those that they disliked. For this analysis the following question was used as a measure of perceived voluntariness of the care arrangement:

> Some parents let their children take care of themselves after school because the parents prefer it to other care arrangements. Others do it because they feel they don't have any choice. How about you?

Endogenous Variables

Six endogenous variables were used to measure the consequences of children's amount of time in self-care. The

first two endogenous variables in this model were the sample subject's academic performance and social adjustment. These measures were obtained from the child's teacher. Each child's teacher completed an academic performance checklist and a behavior rating scale that measured teacher perception of the child's level of school maladaptation.

The third outcome measure, child's level of stress, was obtained from the parent's response to the 40-item Stress Response Scale, revised version (Chandler, 1986), which was included as a part of the Parent Survey. Each of the 40 descriptors was rated on a 5-point scale (0--never, to 4--always).

Parent's stress level, the fourth outcome measure, was obtained from the parent's response to 20 items on the Self-Rating Anxiety Scale (Zung, 1971) which was included in the Parent Survey. Each item on the parent stress checklist had a response measured on a Likert-type scale. Responses ranged from "none or a little of the time" (coded 0) to "most or all of the time" (coded 3).

Parent satisfaction with the care arrangement and child satisfaction with the care arrangement were the final two outcome measures in this study. Parent satisfaction was measured with one item on the parent survey: "How satisfied are you with your child's after-school care arrangement?" Child satisfaction was measured with one item from the

child interview: "How do you like your after-school care arrangement?" Responses to these satisfaction items were on a Likert-type scale. The responses ranged from completely satisfied (coded 5) to completely dissatisfied (coded 1). The particular wording of the questions was adapted to the comprehension level of the children.

Mediating Variable

The primary variable of interest in this study was the weekly amount of time a child spent in self-care. Within the conceptual model it is posited as the mediating variable through which the effects of the exogenous variables influence the endogenous variables. This study seeks to understand the relationship of both the antecedents and consequences of amount of time in self-care, as employed within the complete model. Figure 2 postulates the relationship and direction of each path between exogenous, mediating, and endogenous variables.

Description of Instruments for Data Collection

The instruments used in this study, the Parent Survey, the Teacher Rating Scale, and the Child Interview Form, are included as Appendix B. The parent questionnaire was devised by Rodman and Payne (1988) as part of a larger study of the predictors and consequences of the amount of time school-age children spend in self-care arrangements. The parent

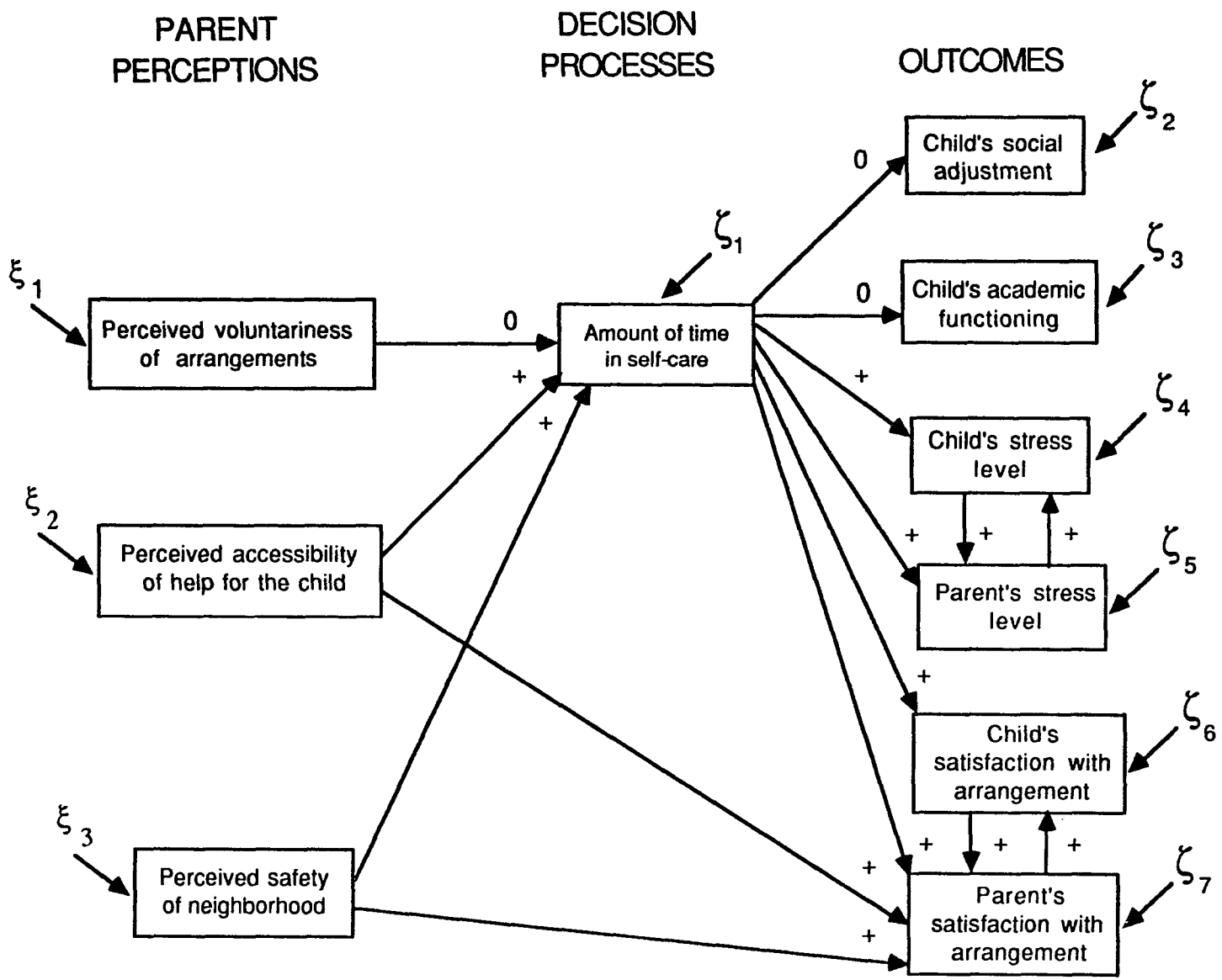


Figure 2. Conceptual Model of Antecedents and Consequences of Amount of Time in Self-Care of Children in Grades K-6

questionnaire was based on survey questionnaires devised by Stewart (1986) and Rodman and Pratto (1980). The main purpose of the questionnaire was to provide data on the exogenous variables of interest as well as on the mediating variable (amount of time in self-care) and on ratings of child stress, parent stress, and parent and child satisfaction with the care arrangement. Another purpose of the survey questionnaire was to collect information on parents' attitudes about after-school care arrangements in their school system. This information will be provided to each local school system and to the State Department of Public Instruction.

The Stress Response Scale (Chandler, 1986) was included in the Parent Survey as an outcome measure of children's stress response. This stress response model describes the child's interaction with his environment along two widely used dimensions of personality (passive/active and introversion/extroversion). The Stress Response Scale was found to have construct validity (Moos & Billings, 1982, as cited in Chandler, 1986), content validity (Chandler, 1979), factorial validity with a five-factor solution consistently accounting for 64%-70% of the variance (Shermis & Chandler, 1985), and discriminant validity (Krotec, 1982, as cited in Chandler, 1986; Piso, 1981).

The Self-Rating Anxiety Scale (Zung, 1971) was included in the Parent Survey as an outcome measure of the parent's

stress response. The SAS contains items relating to 5 affective and 15 somatic symptoms. The SAS was found to have discriminant validity: a correlation of .75 (p .01) was found when comparing the SAS with Hamilton's Anxiety Scale (Hamilton, 1959), the oldest and most often used interviewer-rating scale that is specific for an anxiety disorder (Zung, 1979).

The Teacher Rating Scale is composed of two checklists: The AML Behavior Rating Scale and a Teacher Rating/Schoolwork Checklist. The AML Behavior Rating Scale (Cowen, Dorr, Izzo, Madonia, & Troust, 1971) is a brief (11-item) teacher rating scale that evaluates children's problem classroom behaviors. The AML provides a total score indicating level of school maladaptation and subscale scores for Acting Out, Moody (shy, withdrawn), and Learning Difficulties. The AML was found to have test-retest reliability of .85 (Cowen et al., 1973), internal consistency coefficients of .80 (Dorr et al., 1980), and concurrent validity (Cowen et al., 1973). The Teacher Rating/Schoolwork Checklist is a 9-item inventory, developed by Rodman and Payne, which assessed teacher's perceptions of the child's academic performance, effort, and grades.

The Children's Interview Form, developed by Rodman and Payne, incorporates key questions from the Stewart (1986) study. Stewart was a doctoral student of Rodman's who based

her dissertation on a previous study of Rodman's. The children's interview instrument included questions to tap each of the child outcome variables included in the model as well as questions addressing the type of care arrangements children were in throughout the day and the amount of time they spent in each of these care arrangements.

Data Collection Procedures

The initial phase of the data collection was accomplished with a survey questionnaire sent home to the parents. The questionnaire was preceded by an advance letter which was sent to parents a week prior to the distribution of the questionnaire. The advance letter and the cover letter which accompanied the questionnaire served to explain the purpose of the study and to enhance parental cooperation and support (cover letters and permission forms may be found in Appendix C).

Questionnaires and cover letters in envelopes addressed to the parents of each child were delivered to teachers on a Monday morning. Teachers were given written instructions on how to proceed with the collection of the Parent Surveys.

During the following week, those children whose parents had returned signed consent forms (found in Appendix C) were individually brought to an interview room and were asked to respond to a structured interview administered by trained interviewers. The children were informed of their right to

refuse to participate in the study and also to refuse to respond to any of the items on the interview.

Data from teachers on their rating of each child's behavior and academic performance were also obtained during this week. Data on sample children's performance on the California Achievement Test (CAT) will be available through each local school system's central office during May of 1989. Mean conversion scores will be obtained from a North Carolina conversion table provided by the State Office of Research and Evaluation. This dissertation study represents a part of a larger study of children's self-care arrangements. Additional outcome variables, such as child's academic performance, as well as additional exogenous variables, were addressed in the larger study. Within the limitations of this dissertation study, children's academic performance will not be examined. A full conceptual model of the original Rodman and Payne (1988) study may be found in Appendix A.

Statistical Analyses

The relationships among the predictors and consequences of self-care are multifaceted and complex. The analytic procedures chosen for this study appropriately reflect the complexities of these relationships. One purpose of this study was to investigate the findings of previous research, as well as to explore possible relationships that have, to date, remained uninvestigated. Thus the analytic procedures

employed were partially confirmatory and partially exploratory, consistent with the status of knowledge concerning the antecedents and consequences of the amount of time children spend in self-care.

The working cross-sectional model for explaining parental perceptions that serve as causal antecedents of self-care and the effects of self-care on important child and parent outcomes is shown in Figure 2. The model was carefully developed and is well-grounded in the literature that exists concerning self-care.

A structural equation model utilizing the path analysis component of LISREL VI will be used to examine the relationships between the amount of time children spend in self-care and the predictors and consequences of this weekly amount of time spent in self-care. LISREL is a procedure available through the SPSSX statistical package. Path analysis is a "method for studying patterns of causality among a set of variables" (Pedhazur, 1982, p. 577). Path analysis is a method for studying the direct and indirect effects of variables hypothesized as causes of variables treated as effects. Pedhazur (1982) further notes that this technique is not a method for discovering causes, but a "method applied to a causal model formulated by the researcher on the basis of knowledge and theoretical considerations" (p. 580).

LISREL offers an overall X^2 with which to assess the overall goodness of fit of the model and diagnostic

indicators which provide insight into model modifications and respecification. It also provides effect coefficients, standardized betas, T values, and significance levels.

In the conceptual model, it is assumed that the effects are unidirectional. All of the predictor variables are assumed to precede in time the parents' decisions about using the self-care arrangement and about the amount of time it is used. The unidirectional flow is fairly clear for this portion of the model. It is less clear with regard to amount of time in self-care and some of the outcome variables. For example, child stress or family stress may have a reciprocal influence on amount of time in self-care. It is assumed that the major flow is from time in self-care to the outcome variables, and hence a recursive model with unidirectional causal flow is proposed. Figure 2 represents the conceptual model based on the original specified parameters.

Joreskog (1984) states that the general LISREL model may be determined by the following three equations:

Structural Equation Model: $\underset{\sim}{\eta} = \underset{\sim\sim}{B}\underset{\sim}{\eta} + \underset{\sim\sim}{\Gamma}\underset{\sim}{\xi} + \underset{\sim}{\zeta}$ (I.1)

Measurement Model for $\underset{\sim}{y}$: $\underset{\sim}{y} = \underset{\sim y\sim}{\Lambda}\underset{\sim}{\eta} + \underset{\sim}{\varepsilon}$ (I.2)

Measurement Model for x : $\underset{\sim}{x} = \underset{\sim x\sim}{\Lambda}\underset{\sim}{\xi} + \underset{\sim}{\delta}$ (I.3)

The use of LISREL also implies the following five assumptions:

(i) $\underset{\sim}{\zeta}$ is uncorrelated with $\underset{\sim}{\xi}$

(ii) $\underset{\sim}{\varepsilon}$ is uncorrelated with $\underset{\sim}{\eta}$

(iii) $\underset{\sim}{\delta}$ is uncorrelated with $\underset{\sim}{\xi}$

(iv) $\underset{\sim}{\zeta}$, $\underset{\sim}{\varepsilon}$ and $\underset{\sim}{\delta}$ are mutually uncorrelated

(v) $\underset{\sim}{B}$ has zeroes in the diagonal and $\underset{\sim}{I} - \underset{\sim}{B}$ is non-singular.

The assumptions of LISREL were met in this study. See Joreskog (1984) for a full discussion of the LISREL model.

CHAPTER IV

RESULTS

The purpose of this study was to develop and test a model of the predictors and consequences of the amount of time school-age children spend in self-care arrangements. Specifically the study focused on the role of parents' perceptions as predictors of the amount of time children spent in self-care and the consequences of amount of time in self-care on the child and parent outcomes of stress and satisfaction. Structural equations modeling was used to develop and test the conceptual model of the predictors and consequences of the amount of time children spend in self-care. As recommended by Hayduk (1988), the observed data (a randomly split half of the data) were compared to the specified parameters of the conceptual model through the use of LISREL analysis procedures available with SPSS-X (1988). The first half of the data was used to test the model and to modify it, and the second half of the data was used to compare these results with the first half.

An overall hypothesis was tested that the conceptual model, shown in Figure 2, would accurately specify the observed data that were collected. A X^2 test was used to assess the goodness of fit of this model. Eleven directional

hypotheses, inherent to this specified model, were also explored. The particular coefficients of each parameter were tested for significance within the specification of the overall model tested. LISREL procedures were further used to modify the original model and to respecify a model which would accurately reflect the conceptual framework underlying this study. The "final" model was then compared to the second split half of the data set for validation.

The following null hypotheses were tested in this dissertation: There will be no difference between sigma (the model-implied variances and covariances) and S (the observed reality as shown in the actual observed variances and covariances). A test of the conceptual model is to accept the null hypothesis of no differences. Accepting the null hypothesis of no differences implies a well-fitting model.

After the a priori conceptual model was tested, the following directional hypotheses were explored (see Figure 2):

1. Parent's perception of voluntariness of the care arrangement will not be a significant predictor of children's amount of time in self-care.
2. Parent's perception of accessibility of help for the child will be a significant positive predictor of children's amount of time in self-care.
3. Parent's perception of safety of the neighborhood will be a significant positive predictor of children's amount of time in self-care.

4. The amount of time in self-care will have no significant effect on child's social adjustment.
5. The amount of time in self-care will have no significant effect on child's academic functioning.
6. The amount of time in self-care will have a significant positive effect on child's level of stress.
7. The amount of time in self-care will have a significant positive effect on parent's stress level.
8. The amount of time in self-care will have a significant positive effect on child's satisfaction with the care arrangement.
9. The amount of time in self-care will have a significant positive effect on parent's satisfaction with the care arrangement.
10. There will be a positive significant reciprocal effect between child's stress level and parent's stress level.
11. There will be a significant positive reciprocal effect between child's satisfaction with the care arrangement and parent's satisfaction with the care arrangement.

Data Transformation

Frequency procedures yielding minimum and maximum values were completed using the data collected. The data were checked and cleaned using this information as well as

by randomly selecting 2% of the original protocols and comparing these with the entered data. Data were recoded as necessary to reflect the logical direction of the measured variables; e.g., the variable "parent satisfaction with the care arrangement" was recoded so that 0=completely dissatisfied and 4=completely satisfied.

Results from SAS (1985) frequency, univariate, and plot procedures were used to examine the data for distribution normality and linearity between the variables with hypothesized relationships. the use of LISREL statistical analysis procedures carries the assumption of normal data distributions and a linear relationship between related variables (Pedhazur, 1982). If the distributions deviate far from normality, Joreskog (1984) suggests that it is advisable to "robustify" the elements of the sample data matarix prior to the analysis. To do this, data transformations (log and square root transformations) were performed on two variables in order to achieve normal distributions. A log10 transformation was performed on the variable parent stress and a square root transformation was performed on the variable child social adjustment.

Hayduk (1988) recommends that for large data sets (500 or more cases), the original data set should be halved so that a model testing, fitting, and modification procedure could be employed on the first split set. The second split set may then be "fit" with the final model/estimates for

purposes of model validation. A SAS program was used to split the original data set (812 cases) randomly into two sets, with 406 cases in each new data set.

Fitting a LISREL Model

The purpose inherent in "fitting" a model through the use of LISREL is to develop a model having a predicted variance/covariance matrix that is very similar to what is found in the observed sample variance/covariance matrix. The closeness of the match between sigma and S forms the criterion used for deciding which of several alternative models is best and also serves as a criterion for determining the best estimates for any given model. However, this process should be theory-driven rather than data-driven. The obtained estimates providing the best fit between Σ and S are ". . . conditional on the theoretically dictated placement of the free coefficients in the model" (Hayduk, 1988, p. 159).

In LISREL, the X^2 test is used to assess the fit between Σ and S. It provides an omnibus test of the overall model, the maximum likelihood of its free coefficients, and all of the model constraints. The estimated model has survived potential discreditation if it provides a close match between Σ and S. Yet, one cannot claim that the model has been proven. Several models might offer equally acceptable fits (Hayduk, 1988, p. 159). Joreskog (1984) indicates that

X^2 should not be regarded as a test of significance but rather as a goodness or badness of fit measure. Smaller X^2's indicate a good fit, whereas large X^2's indicate a poor fit. An insignificant X^2 ($\underline{p} < .2$) is desirable, implying that the model's predicted Σ is sufficiently close to the observed data S for the remaining differences to be mere sampling fluctuations. Hayduk (1988) maintains that:

> Adopting the usual .05 level of significance amounts to accepting models as adequate if the observed sampling fluctuations could appear in about 1 in every 20 samples. This is not particularly strong confirmation of a model. Since accepting the null hypothesis amounts to accepting one's theory (a reversal of the usual role of the null hypothesis), it would seem preferable to use a .1 or .2 level of significance. (p. 161)

Degrees of freedom for X^2 are calculated as the difference between the total number of unique entries in the covariance matrix (which represent the observed variances/covariances) and the total number of coefficients to be estimated in the model. Models having many degrees of freedom (few estimated coefficients) are preferable to models having fewer degrees of freedom with many estimated coefficients. Larger degrees of freedom enhance one's possibilities for having not only a well-fitting model but a parsimonious one as well.

Residuals provide insight into the substantive concerns underlying model construction. They should be carefully examined and large residuals should provide clues for future

model modifications. The LISREL output provides residuals labeled "fitted moments" (Σ matrix), "fitted residuals" (S-matrix), and "normalized residuals" (standardized residuals). The standardized residuals offer a most important source of diagnostic information for future model modifications. Standardized residuals are estimates of the number of standard deviations the observed residuals are away from the zero residuals that would be provided by a perfectly fitting model. Therefore all but about 5% of the standardized residuals should be within two standard deviations from zero.

Another important piece of diagnostic information provided by LISREL is the "squared multiple correlations for the structural equations." These represent the proportion of variance for each endogenous variable which is explained by the model. The LISREL output also provides squared multiple correlations for each observed variable separately and coefficients of determination for all the observed variables jointly. Squared multiple correlations with negative values or values exceeding one indicate misspecification of the model.

Other important sources of diagnostic information that may be used for modifications in poorly fitting models are partial derivatives (slopes), second-order derivatives (changes in slopes), Q plots of standardized residuals, and

modification indices. These will be discussed in detail as they become relevant to the modeling methodology employed in this study.

Once a "well-fitting" model has been identified, the structural coefficients may be interpreted based on their effects, standard errors, and statistical significance. Traditional hypothesis testing procedures are employed. T values provide the number of sampling distribution standard deviations the estimate is away from zero. Hence T-values can be used to test the null hypothesis that the true parameter value is zero. A desired level of significance (alpha or type I error) is selected and compared to the corresponding critical value in a normal probability table (not a T table).

The Exploratory Model

Figure 2 depicts a model investigating potential causal links between the predictors and consequences of the amount of time school-age children spend in self-care. The model has 10 concepts: 3 exogenous (perceived voluntariness of arrangements, perceived accessibility of help for the child, perceived safety of the neighborhod) and 7 endogenous (amount of time in self-care, child's social adjustment, child's academic functioning, child's stress level, parent's stress level, child's satisfaction with the care arrangement, and parent's satisfaction with the care arrangement). Each concept has a single indicator which has the same name.

The computer program used for testing the "fit" of the conceptual model is included as Appendix D. Those parameters which were posited as having a causal relationship were set "free" in order to be estimated. Other parameters, posited as having zero path coefficients, were "fixed" at zero. Constraints were placed on the reciprocal parameters to be estimated between child stress and parent stress and between child satisfaction and parent satisfaction. Error values were set based on reliabilities given for the concepts child stress, parent stress, and social adjustment. For all other concepts, the error values were set based on a prediction of 90% of the variance being accounted for by the model. The covariance matrix employed in this first analysis is shown in Table 1.

The first LISREL computation provided the generalized least squares estimates (see Table 2). Estimates were provided for the Beta, Gamma, Phi, Psi, Theta Epsilon, and Theta Delta Matrices. Since only one indicator was used as a measure of each concept, the Lambda Y and Lambda X matrices were not provided. The resulting structural coefficients for the conceptual model were given and are shown in Figure 3. The initial estimated model (Figure 3) provided a X^2 of 119.40 with 29 degrees of freedom ($p = 0.000$). This X^2 ws unacceptably high, indicating that the model did not fit the data well and suggesting that the model had been misspecified. Model misspecification occurs

Table 1

Path Analysis on First Split Half of Data Set

Covariance Matrix to be Analyzed	Time in self-care	Child's level of stress	Parent's level of stress	Child's satisfaction with care arrangement	Parent's satisfaction with care arrangement	Perceived voluntariness of care arrangement	Perceived accessibility to help	Perceived safety of the neighborhood
Time self-care	3.549							
Child's stress	2.882	309.837						
Parent's stress	-0.122	8.907	1.349					
Child's satisfaction	-0.082	-2.292	-0.075	0.328				
Parent's satisfaction	0.298	2.708	0.094	-0.060	0.515			
Voluntariness	-0.517	-0.708	-0.122	0.042	-0.054	0.557		
Accessibility	0.908	-0.357	0.132	-0.061	0.031	-0.559	2.910	
Safety	-0.038	1.675	0.084	0.002	0.093	0.056	-0.144	0.327

DETERMINANT = 0.524776D+02

Table 2

Path Analysis on Split Half of Data Set (LISREL Estimates for the Exploratory Model)

BETA MATRIX

	self-care	child's social adjustment	child's academic functioning	child's level of stress	parent's level of stress	child's satisfaction with care arrangement	parent's satisfaction with care arrangement
Time self-care	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Adjustment	0.004(.061)	0.000	0.000	0.000	0.000	0.000	0.000
Academic	0.007(.061)	0.000	0.000	0.000	0.000	0.000	0.000
Child's stress	0.122(.055)*	0.000	0.000	0.000	0.300(.050)*	0.000	0.000
Parent's stress	-0.078(.055)	0.000	0.000	0.300(.050)*	0.000	0.000	0.000
Child's satis.	-0.083(.061)	0.000	0.000	0.000	0.000	0.000	-0.045(.032)
Parent's satis.	0.257(.061)*	0.000	0.000	0.000	0.000	-0.045(.032)	0.000

GAMMA MATRIX

	perceived voluntariness of the care arrangement	perceived accessibility to help	perceived safety of the neighborhood
Time self-care	-0.376(.070)*	0.161(.067)*	0.053(.062)
Adjustment	0.000	0.000	0.000
Academic	0.000	0.000	0.000
Child's stress	0.000	0.000	0.000
Parent's stress	0.000	0.000	0.000
Child's satis.	0.000	0.000	0.000
Parent's satis.	0.000	-0.006(.063)	0.224(.061)*

Model X^2 with 29 degrees of freedom is 119.40 ($p = 0.000$)

* ($p < .05$)

Table 2 (continued)

PHI MATRIX

	perceived voluntariness of the care arrangement	perceived accessibility to help	perceived safety of the neighborhood
Voluntariness	0.835		
Accessibility	-0.403	0.866	
Safety	0.140	-0.147	0.829

PSI MATRIX

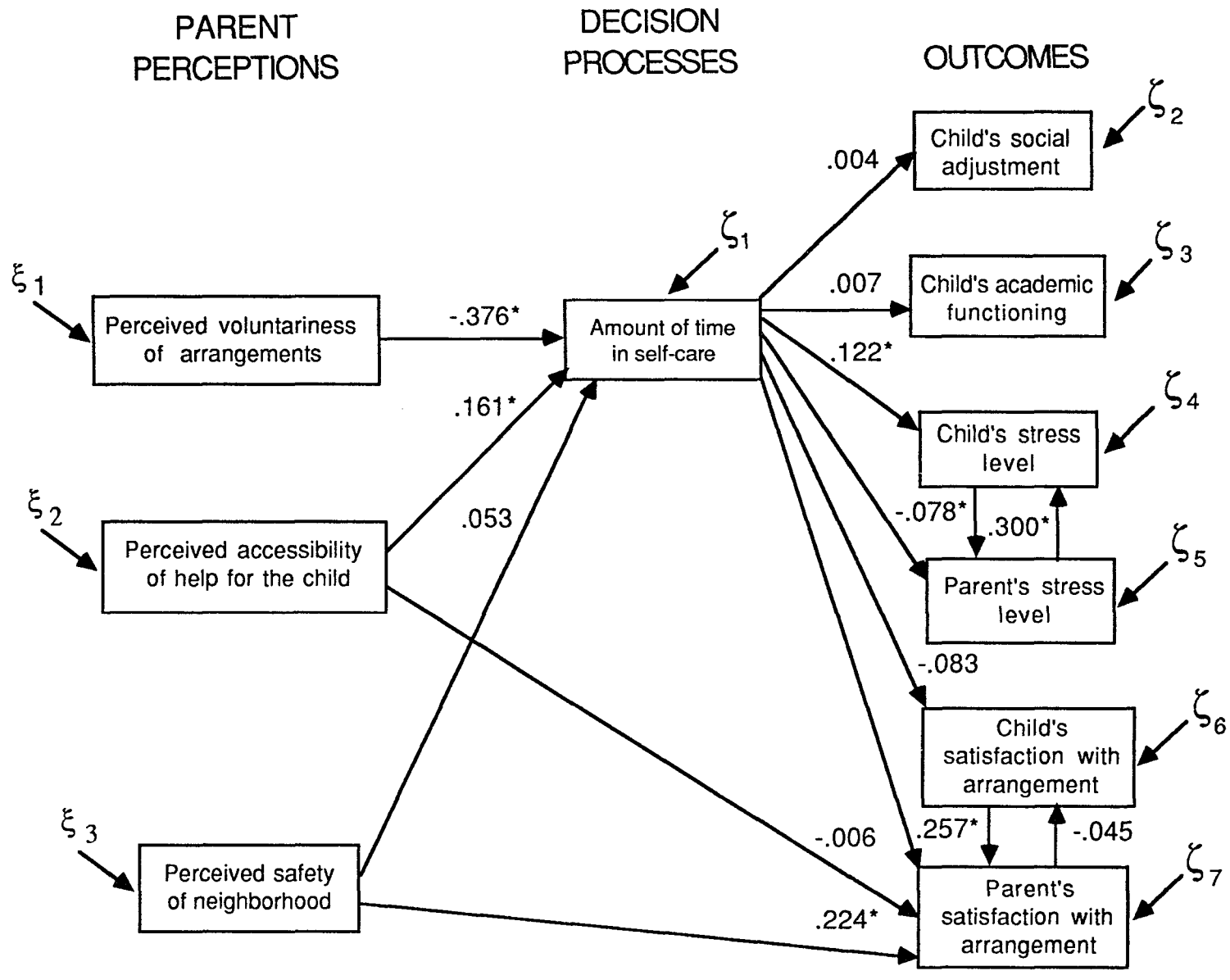
time in self-care	child's social adjustment	child's academic functioning	child's level of stress	parent's level of stress	child's satisfaction with the care arrangement	parent's satisfaction with the care arrangement
0.716	0.542	0.300	0.328	0.404	0.781	0.722

THETA EPSILON MATRIX

0.100	0.100	0.278	0.260	0.294	0.100	0.100

THETA DELTA MATRIX

perceived voluntariness of the care arrangement	perceived accessibility to help	oerceived safety of the neighborhood
0.100	0.097	0.100



Chi-square with 29 degrees of freedom is 119.40
(p = 0.000)

Figure 3. Exploratory Model

> if the contribution of a true common cause to the covariance between two variables is modeled as a direct or indirect effect between those variables, or if incorrect causal sequencing is used. (Hayduk, 1988, p. 150)

Hayduk further notes that a model may be said to be misspecified if anything about the model fails to correspond to the real world. Misspecifications share the common characteristic of potentially leading to biased estimates.

> Specification errors include: omitting important paths (coefficients), including paths having incorrect causal directions, using incorrect functional forms (using an additive model when a nonlinear model is required), omitting spurious causes or causally effective correlates of ineffective but included exogenous variables, incorrect error specifications (unjustifiably assuming the error variables are independent from one another or from the exogenous variables), failing to achieve an interval level of measurement, and modeling data sets that have not reached equilibrium. (Hayduk, 1988, p. 158)

Close examination of the diagnostic indicators suggested possible areas where changes might improve the overall fit of the model. Concepts with standardized residuals that exceeded 2.5 standard deviations (2 or < 2 implies a well-fitting model) were candidates for further modification. Examination of the standardized residuals from the LISREL output indicates that there were no major problems in the a priori specifications concerning amount of time in self-care. But the standardized residual for social adjustment and academic functioning (particularly as they relate to one another) suggest that modifications are needed.

Another problem area is with the concept child stress, especially as it involves parent stress, child satisfaction, and parent satisfaction.

Table 2 gives the β and γ path coefficients and their significance for the exploratory model. An interpretation of these coefficients will not be given at this time since further modifications are required to develop a "well-fitting" model. Those paths with statistically insignificant T values will be deleted (fixed at zero) during the next stage of model modification.

Model Modifications

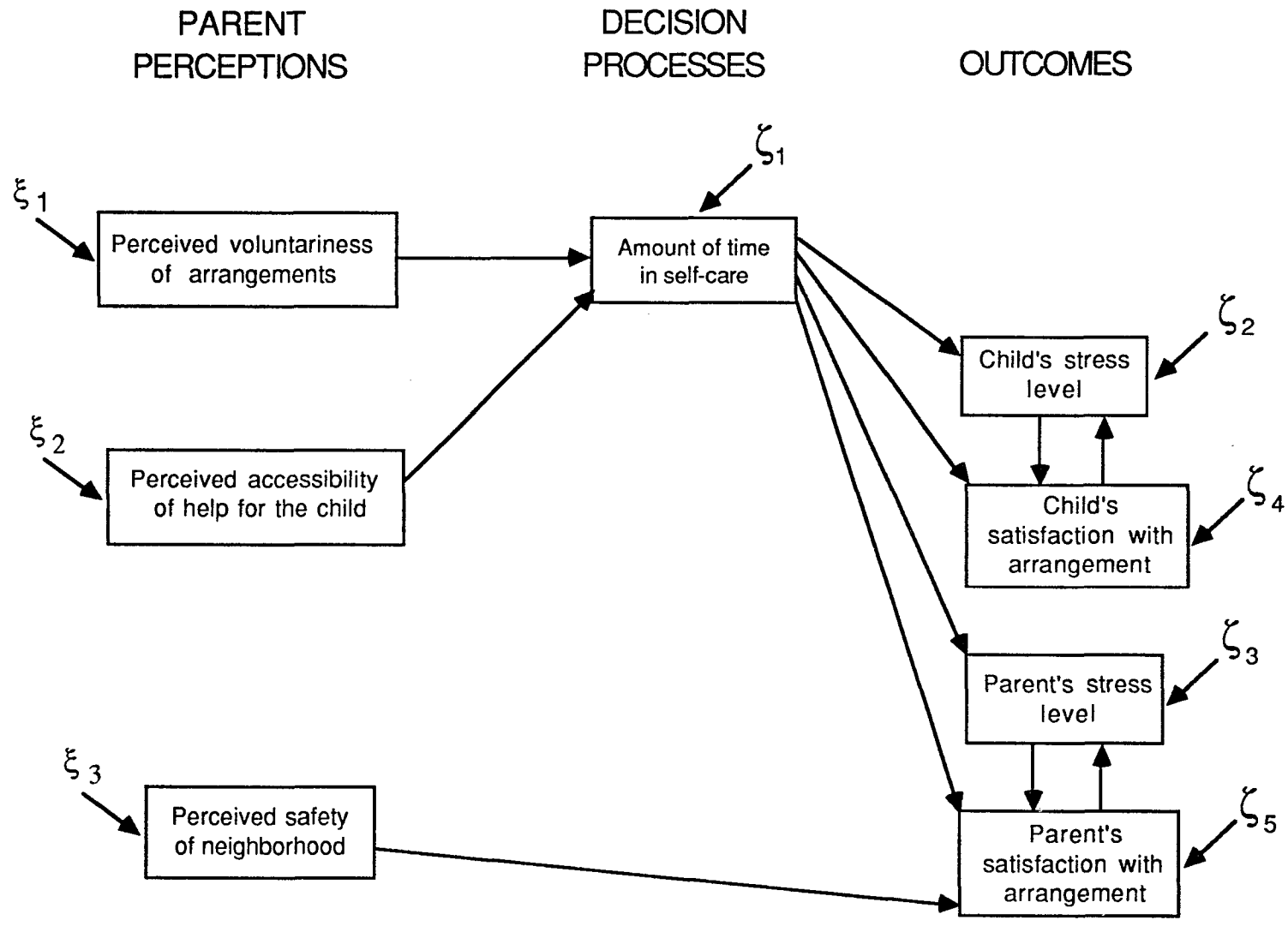
The large X^2 indicated some misspecification in the exploratory conceptual model. While gross problems were not reflected in the diagnostic indicators, a closer examination revealed several concepts whose parameters required respecification. The following modifications were systematically explored during the subsequent stages of model respecification:

1. Delete the nonsignificant paths (perceived accessibility of help to parent satisfaction and perceived safety of neighborhood to amount of time in self-care).
2. Remove concepts that have no significnt paths within the model (social adjustment and academic functioning).

3. Respecify the various relationships among the remaining four outcome variables (child stress, parent stress, child satisfaction, and parent satisfaction).
4. Explore additional possible relationships between the exogenous and endogenous variables.

Several different LISREL runs were performed, while systematically altering the model by one modification at a time. Figures 4 and 5 illustrate examples of these modifications and the resulting outcomes. While there was some improvement in the X^2, severe diagnostic indicators appeared, including squared multiple correlations which were negative or exceeded 1.0, unusual Q-plots, and standardized slopes exceeding 1.0. A further modification involved changing the values of the error terms of the Theta-Epsilon matrix as suggested by Hayduk (1988). This modification offered no improvement.

Developing and testing causal models thorugh the use of LISREL may be both confirmatory and exploratory in nature. Specification and modification of the model should be theory-driven rather than data-driven as much as possible (Hayduk, 1988, p. 177). However, because previous empirical findings conflict concerning several concepts (social adjustment and academic functioning) included in the a priori model, and because previous data are nonexistent for several other



Chi-square with 16 degrees of freedom is 94.96
(p = 0.000)

Figure 4. Exploratory Model 2 with Researcher Modifications

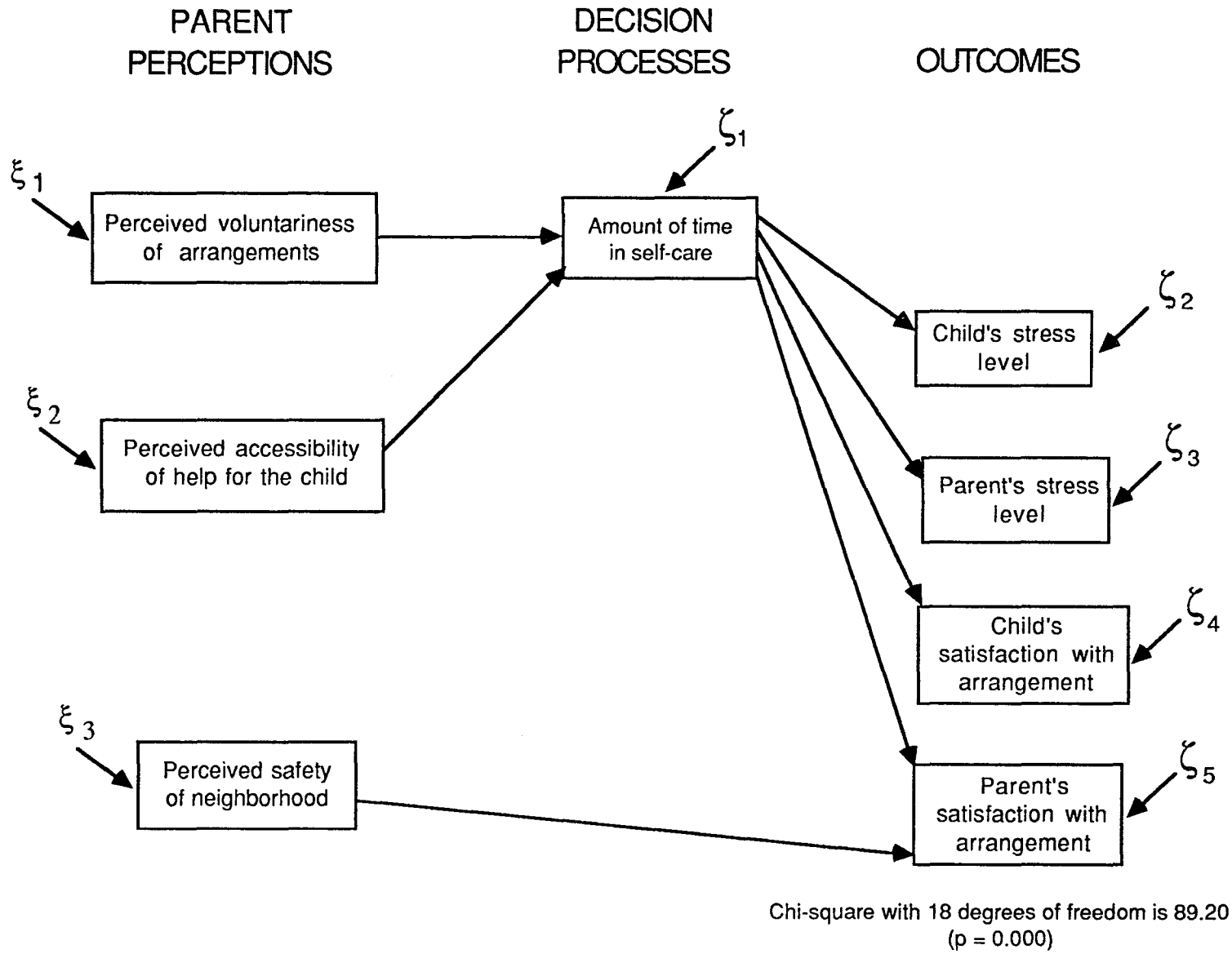
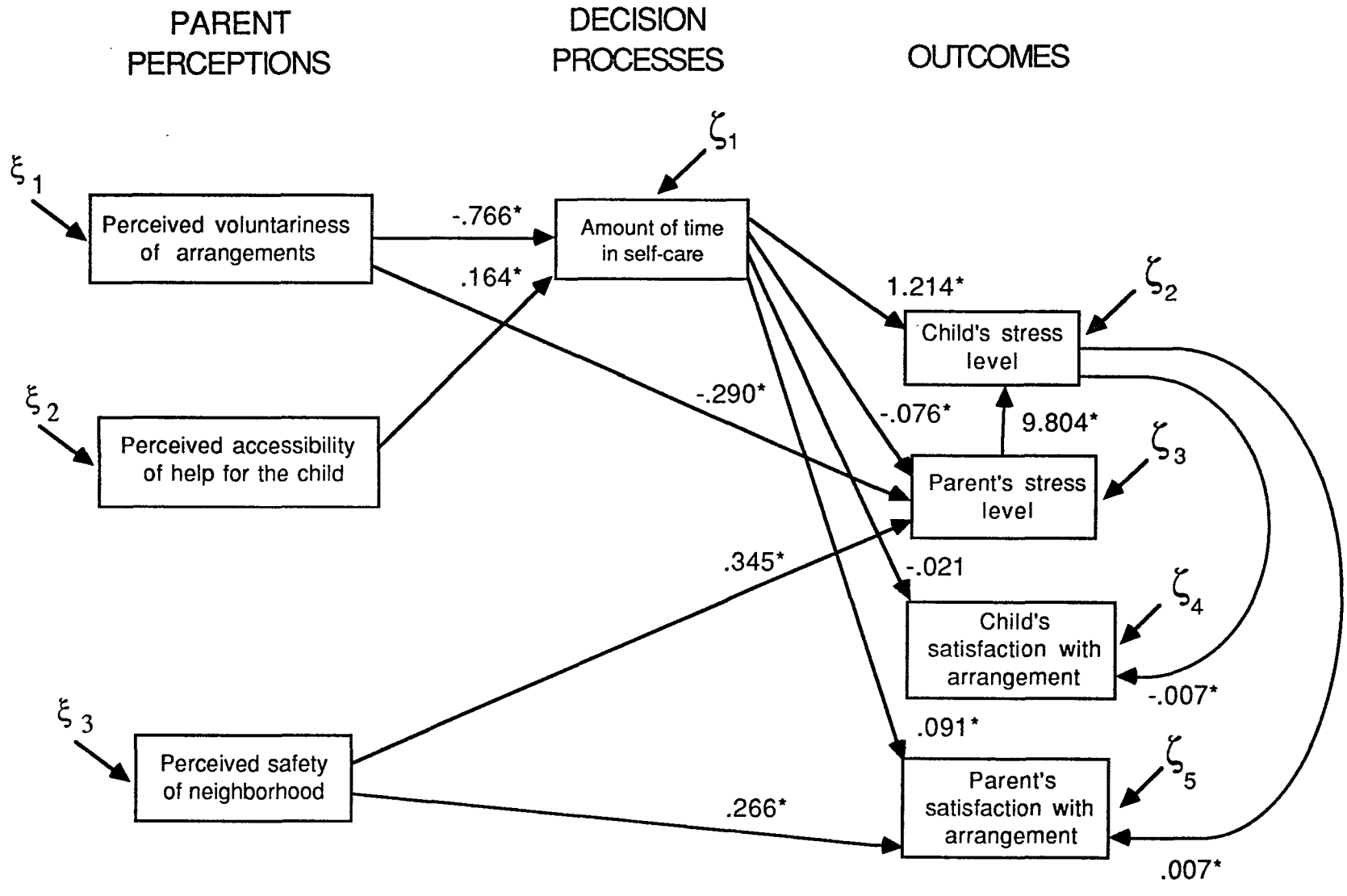


Figure 5. Exploratory Model 3 with Researcher Modifications

concepts (child stress and parent stress), theory-driven modifications were tenuous indeed. Seeking to utilize fully the exploratory power of the LISREL program and to further develop a body of theory in the area of self-care, a decision was made to allow the LISREL program to seek the optimal modifications and solution. During this program run, five modifications were employed which resulted in improved X^2's, residuals, Q-plots, and correlations. These modifications were as follows: (a) "free beta (2,3)" (parent stress and child stress); (b) "free beta (4,2)" (child satisfaction and child stress); (c) "free beta (5,2)" (parent satisfaction and child stress); (d) "free gamma (3,1)" (parent stress and perceived voluntariness); and (e) "free gamma (3,3)" (parent stress and perceived safety of the neighborhood). Following all modifications, a final solution was reached after seven minimization iterations. Figure 6 shows the parameters of the final model. This X^2 of 14.73 with 13 degrees of freedom ($p = 0.324$) indicated a very good fit between Σ and S.

It should be noted that the five modifications performed via the LISREL program's automatic modification procedures involved the overall strategies previously suggested by this researcher (to explore various causal paths among the outcome variables child and parent stress and child and parent satisfaction and to explore other causal paths among the



Chi-square with 13 degrees of freedom is 14.73
(p = 0.324)

Figure 6. Final Modified Model

exogenous and endogenous variables). Estimating unidirectional paths among the variables child stress, child satisfaction, parent stress, and parent satisfaction provided for a better specified and more parsimonious model than estimating various bidirectional paths as had been specified by this researcher. The LISREL procedures remain sensitive to reciprocal effects. Hayduk (1988, pp. 145-146) suggests breaking the chain of reciprocal causation by inserting an additional variable to break the symmetry in one of the reciprocal paths.

Table 3 gives the effect coefficients for all of the estimated parameters in the final model as well as the standardized coefficients and the statistical significance of each parameter. Each of the β and γ coefficients retains the usual interpretation that a unit increase in the independent (causal) variable is expected to be accompanied by or β units of increase in the dependent variable. Therefore, the significant effect coefficients may be interpreted as follows: (a) For each adidtional hour per week in self-care, the child's level of stress is increased by 1.214 units, parent's stress is decreased by .076 units, and the parent's satisfaction is increased by .091. (b) For each unit of increase in the child's stress level, there is a .007 decrease in the child's satisfaction with the care arrangement and a .007 increase in the parent's satisfaction

Table 3

Path Analysis on Split Half of Data Set (LISREL Estimates for the Modified Model)

BETA MATRIX

	time in self-care	child's level of stress	parent's level of stress	child's satisfaction	parent's satisfaction
Time self-care	0.000	0.000	0.000	0.000	0.000
Child's stress	1.214(0.523)*	0.000	9.804(1.094)*	0.000	0.000
Parent's stress	-0.076(0.040)*	0.000	0.000	0.000	0.000
Child's satisfac.	-0.021(0.018)	-0.007(0.002)*	0.000	0.000	0.000
Parent's satisfac.	0.091(0.022)*	0.007(0.002)*	0.000	0.000	0.000

GAMMA MATRIX

	voluntariness	accessibility	safety
Time self-care	0.766(0.141)*	0.164(0.062)*	0.000
Child's stress	0.000	0.000	0.000
Parent's stress	-0.290(0.090)*	0.000	0.345(0.107)*
Child's satisfac.	0.00	0.000	0.000
Parent's satisfac.	0.000	0.000	0.266(0.064)*

PHI MATRIX

Voluntariness	0.557		
Accessibility	-0.559	2.910	
Safety	0.056	-0.144	0.327

Chi-square with 13 degrees of freedom is 14.73

(p = 0.324)

PSI MATRIX

time in self-care	child's level of stress	parent's level of stress	child's satisfaction	parent's satisfaction
2.651	220.895	0.868	0.277	0.394

THETA EPSILON MATRIX

0.355	0.807	0.397	0.033	0.051

level. (c) For each unit of change in the parent's stress level, there is an increase of 9.804 in the child's stress level. (d) For each unit of change in parental perception of voluntariness of the care arrangement, there is a decrease by .766 hours per week spent in self-care, and a decrease of .290 in parent's stress level. (e) For each additional person accessible to help the child, there is an increase of .164 hours per week in self-care. (f) For each unit of increase in parental perception of neighborhood safety, there is a .345 unit of increase in the parental stress measure and a .266 unit increase in parental satisfaction with the care arrangement.

Examination of the standardized coefficients in the beta and gamma matrices indicates weakly moderate to fairly strong effects. "The elements of β and γ may be interpreted as the number of standard deviations change in an expected to follow a one standard deviation increase in another β or γ " (Hayduk, 1988, p. 185). The squared multiple correlations for the structural equations indicate that the modeled effects account for 25% of the variance in amount of time in self-care, 27% of the variance in child stress, 32% of the variance in parental stress, 16% of the variance in child satisfaction with the care arrangement, and 22% of the variance in parent's satisfaction with the care arrangement.

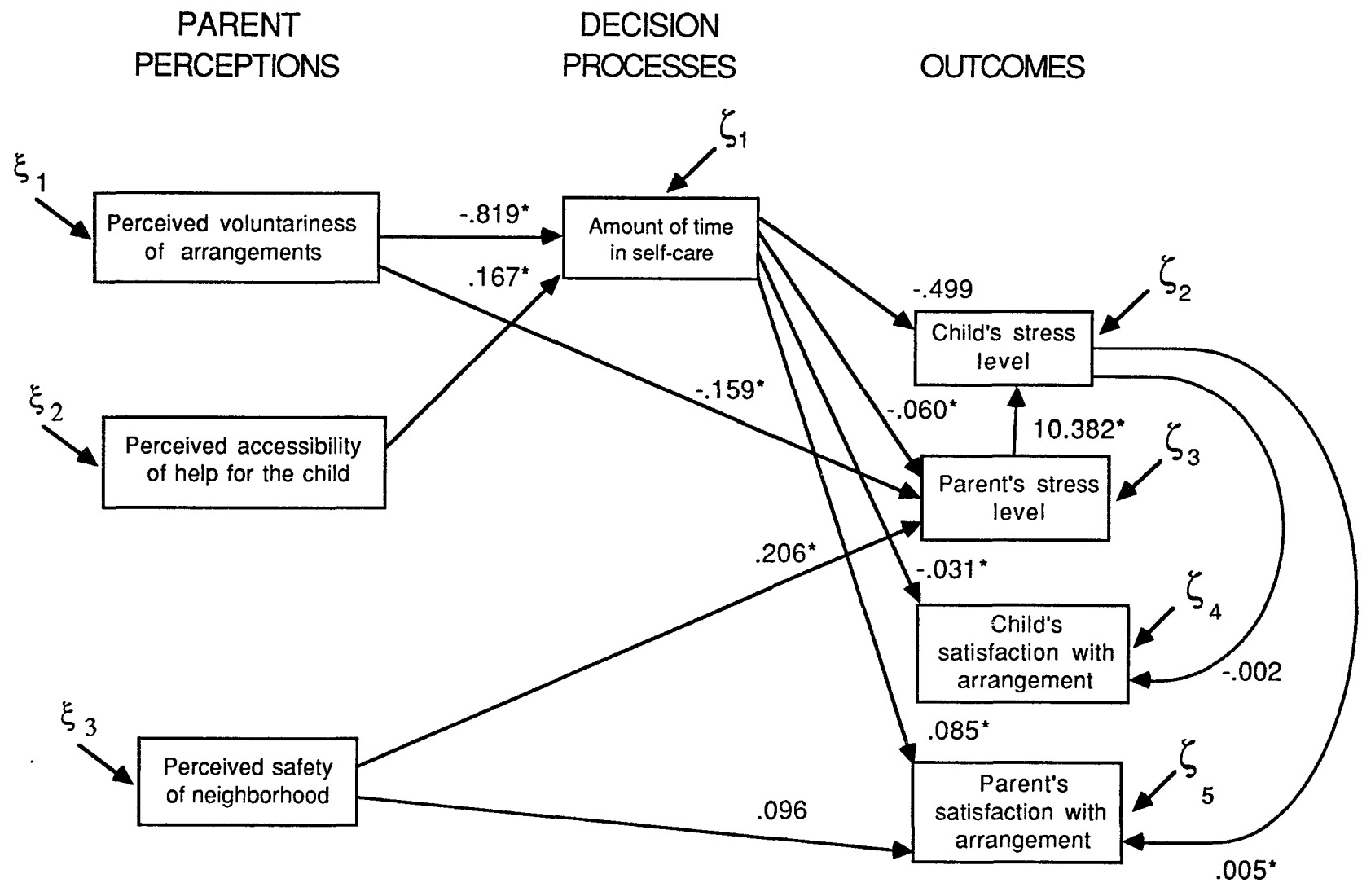
The Validated Model

Due to the modifications in the model that have been based on the first half of the data set, the fit between the derived model and the empirical data is not surprising. As Hayduk (1988) says:

> From the viewpoint of the pure model testing, we have compromised the ability of X^2 to test the ultimate model the instant we change anything about the model on the basis of the observed covariances or on the basis of previous attempts to fit the model to the data (and specifically the X^2 for any previous attempts). Once the data has been used to fix the model, the data no longer provides a pure test of the model. (p. 167)

Using the second half of the split data set, however, provides an opportunity to test the validity of the derived model. Since the second half of the data set was not used to derive the model, it makes it possible to conduct a pure test of the model. This final test of the model is shown in Figure 7. Results were obtained which were very similar to the final results obtained using the first half of the split data set. These results are shown in Table 4. A X^2 of 12.92 with 13 degrees of freedom (p = .454) was obtained. The covariance matrix analyzed during this run is shown in Table 5. The final model may be thought of as "valid" in that it provides an excellent fit with the new, "pure" data set. This also provides the best X^2 estimate from all of the models specified.

The statistically significant coefficients from Table 4 may be interpreted in the following manner: (a) For each



Chi-square with 13 degrees of freedom is 12.92
(p = 0.454)

Figure 7. Validated Model on Second Half of Data Set

Table 4

Path Analysis on Second Half of Data Set (LISREL Estimates) (Generalized Least Squares)

BETA MATRIX

	time in self-care	child's level of stress	parent's level of stress	child's satisfaction	parent's satisfaction
Time self-care	0.000	0.000	0.000	0.000	0.000
Child's stress	-0.499(0.559)	0.000	10.382(1.584)*	0.000	0.000
Parent's stress	-0.060(0.036)*	0.000	0.000	0.000	0.000
Child's satisfac.	-0.031(0.019)*	-0.002(0.002)	0.000	0.000	0.000
Parent's satisfac.	0.085(0.020)*	0.005(0.002)*	0.000	0.000	0.000

GAMMA MATRIX

	voluntariness	accessibility	safety
Time self-care	-0.819(0.151)*	0.167(0.068)*	0.000
Child's stress	0.000	0.000	0.000
Parent's stress	-0.159(0.081)*	0.000	0.206(0.103)*
Child's satisfac.	0.000	0.000	0.000
Parent's satisfac.	0.000	0.000	0.096(0.065)

PHI MATRIX

Chi-square with 13 degrees of freedom is 12.92 (p = 0.454)

Voluntariness	0.585	
Accessibility	-0.671	2.894
Safety	0.043	0.287

PSI MATRIX

time in self-care	child's level of stress	parent's level of stress	child's satisfaction	parent's satisfaction
2.762	259.206	0.627	0.306	0.334

THETA EPSILON MATRIX

0.355	0.807	0.397	0.033	0.051

Table 5

Path Analysis on Second Half of Data Set

COVARIANCE MATRIX TO BE ANALYZED

	time in self-care	child's level of stress	parent's level of stress	child's satisfaction with care arrangement	parent's satisfaction with care arrangement	perceived voluntariness of care arrangement
Time self-care	3.767					
Child's stress	-2.998	334.856				
Parent's stress	-0.128	6.805	1.064			
Child's satisfac.	-0.099	-0.759	-0.033	0.361		
Parent's satisfac.	0.259	1.730	0.065	-0.046	0.435	
Voluntariness	-0.581	-0.311	-0.052	0.021	-0.080	0.585
Accessibility	1.008	0.483	0.073	0.002	0.152	-0.671
Safety	-0.053	1.066	0.051	-0.042	0.034	0.043

COVARIANCE MATRIX TO BE ANALYZED

	perceived accessibility to help	perceived safety of the neighborhood
Accessibility	2.894	
Safety	-0.146	0.287

DETERMINANT = 0.448829D+02

additional hour per week in child's self-care, there is a .060 decrease in parent stress, a .031 decrease in child satisfaction, and a .085 increase in parent satisfaction; (b) for each additional unit increase in child stress, there is a .005 unit increase in parent satisfaction; (c) for every one unit increase in parent stress there is a 10.382 increase in child stress; (d) for every one unit increase in voluntariness of the care arrangement there is a .819 unit decrease in time in self-care, and a .159 decrease in parent stress; (e) for every additional person that is accessible to help there is a .167 increase in hours in self-care; and (f) for every unit increase in safety of the nieghborhood there is a .206 unit increase in parent stress. Therefore, the model provided a test for specific hypotheses.

The squared multiple correlations for the structural equations indicate that the modeled effects account for 26.8% of the variance in amount of time in self-care, 22% of the variance in child stress, 40% of the variance in parental stress, 10% of the variance in child satisfaction with the care arrangement, and 20% of the variance in parent's satisfaction with the care arrangement. This "validated" model provided an adjusted goodness of fit of .979 and a root mean square residual of .418 (cf. Joreskog, 1984).

Further tests of this model may be performed on similar data sets in future analyses. Other expanded variable models

will be tested as the larger Rodman and Payne (1988) study continues. Careful attention should be paid to the differences in the fit of models when additional variables are added.

CHAPTER V

SUMMARY AND DISCUSSION

Summary of Objectives, Methodology, and Results

The purpose of this study was to develop and test a model of the predictors and consequences of the amount of time children (in Grades K-6) spend in self-care. Specifically, this study investigated the role of parents' perceptions as predictors of the amount of time their children spend in self-care and the consequences of that amount of time in self-care on the child and parent outcomes of stress and satisfaction with the care arrangement. Exogenous variables were parent's perceived voluntariness of the care arrangement, perceived accessibility to help, and perceived safety of the neighborhood. Endogenous variables were weekly amount of time in self-care, child's social adjustment, child's academic functioning, child's stress, parent's stress, child's satisfaction with the care arrangement, and parent's satisfaction with the care arrangement.

The data for this study were collected by Rodman and Payne (1988) as part of a larger research project addressing the predictors and consequences of the amount of time school-age children spend in self-care. Eleven school systems were randomly selected, stratified by population

density, from across North Carolina. Within each system a school was randomly selected. From these schools a class at each grade level, Kindergarten through Grade 6, was chosen. The parents of approximately 150 students per school were surveyed. The final sample consisted of 812 subjects. The data were collected through parent surveys, teacher ratings, and child interviews during the winter of 1988/89. Additional data on the subjects' standardized test scores and school attendance are yet to be collected. This study represents the first analysis of the data from the larger Rodman and Payne (1988) study.

A structural equations model utilizing path analysis was used to examine the relationship among the exogenous variables (parental perceptions), endogenous variables (child and parent outcome measures of stress and satisfaction), and the mediating variable (amount of time in self-care). The LISREL VI program available through SPSSX was used to test and to modify the a priori conceptual model from which the hypotheses of this study were derived.

A large X^2 (119.40 with 29 degrees of freedom, $p = 0.000$) was obtained on the initial estimated model. This indicated that the model did not fit the data well and had been misspecified. Examination of the diagnostic indicators revealed potential parameters of the model for modification. Based on this information and framed within the underlying conceptual framework, various respecifications were attempted.

Since a major purpose of this study was to develop a model of the predictors and consequences of the amount of time children spend in self-care, LISREL's automatic modification procedures were used in order to fully explore the substantive issues implied by the data-driven modifications. After five modifications, a well-fitting model was specified (X^2 = 14.73 with 13 degrees of freedom, p = 0.324).

Statistically significant ($p < .05$) positive relationships were found between the following variables:

1. time in self-care to child stress
2. time in self-care to parent's satisfaction with the care arrangement
3. child stress and parent satisfaction with the care arrangement
4. parent stress to child stress
5. perceived accessibility of help to the amount of time in self-care
6. perceived neighborhood safety to parent stress
7. perceived neighborhood safety to parent satisfaction with the care arrangement

Statistically significant ($p < .05$) negative relationships were found between the following variables:

1. time in self-care to parent stress
2. perceived voluntariness to time in self-care
3. perceived voluntariness to parent stress
4. child stress to child satisfaction with the care arrangement

The final estimated model (derived by LISREL's automatic modification procedures) was tested on the "pure" or untested second half of the randomly split data set. Results were obtained which were similar to those of the preceding "automatic modification run." A X^2 of 12.92 with 13 degrees of freedom was obtained ($p = .454$), indicating a well-fitting model.

The findings from the final data set run indicated statistically significant ($p < .05$) positive relationships between the following variables:

1. time in self-care to parent satisfaction
2. child stress to parent satisfaction
3. parent stress to child stress
4. perceived accessibility to time in self-care
5. perceived neighborhood safety to parent stress

Statistically significant ($p < .05$) negative relationships were found for the following variables:

1. time in self-care to parent stress
2. time in self-care to child satisfaction
3. perceived voluntariness to time in self-care
4. perceived voluntariness to parent stress

The X^2 results on the final model fitting on each of the two halves of the data set yielded very similar results. This indicates that the conceptual model which was empirically modified was validated by the second half of the data

set. It should be noted that although both the final modified model run on the manipulated first data set and the same model run on the "pure" or untested second data set yielded similar results, there were nevertheless several differences in the significance and direction of the causal relationships between variables.

An overall hypothesis was tested that the conceptual model, shown in Figure 2, would accurately specify the observed data that was collected. The following null hypotheses were tested in this dissertation: There will be no difference between Σ (the model-implied variances and covariances) and S (the actual observed variances and covariances). A test of the conceptual model is to accept the null hypothesis of no differences.

Results of the study support rejection of the null hypothesis. A high X^2 (119.40 with 29 degrees of freedom; $p = 0.000$, nonsignificant) was obtained. However, further attempts to respecify the model using theory and LISREL procedures resulted in a final model with an acceptable X^2 of 14.73 with 13 degrees of freedom ($p = 0.324$). The final "validated" model resulted in an even more impressive X^2 of 12.92 with 13 degrees of freedom ($p = 454$).

In addition to testing the null hypothesis, 11 directional hypotheses were explored. The first directional hypothesis was: Parent's perception of voluntariness of

the care arrangement will not be a significant predictor of children's amount of time in self-care. This was rejected in both the modified model and the validated model. Perceived voluntariness demonstrated a significant negative relationship to amount of time in self-care.

The second directional hypothesis was: Parent's perception of accessibility of help for the child will be a significant positive predictor of children's amount of time in self-care. This hypothesis was supported in both models ($p < .05$).

The third directional hypothesis was: Parent's perception of safety of the neighborhood will be a significant positive predictor of children's amount of time in self-care. This hypothesis was not significant in either model.

The fourth directional hypothesis was: The amount of time in self-care will have no significant effect on child's social adjustment. This hypothesis was supported during the first analysis; therefore, the variable social adjustment was eliminated from subsequent analyses.

The fifth directional hypothesis was: The amount of time in self-care will have no significant effect on child's academic functioning. This hypothesis was supported in the first analysis; therefore, the variable academic functioning was eliminated from subsequent analyses.

The sixth directional hypothesis was: The amount of time in self-care will have a significant positive effect on

child's level of stress. This hypothesis was supported in the analysis of the modified model ($p < .05$), but was not significant in the validated model.

The seventh directional hypothesis was: The amount of time in self-care will have a significant positive effect on parent's stress level. This directional hypothesis was rejected. In both models significance ($p < .05$) was reached, but there was a negative relationship.

The eighth directional hypothesis was: The amount of time in self-care will have a significant positive effect on child's satisfaction with the care arrangement. This hypothesis was not supported. There was a negative relationship in both models, but only in the validated model was significance ($p < .05$) reached.

The ninth directional hypothesis was: The amount of time in self-care will have a significant positive effect on parent's satisfaction with the care arrangement. Support for this hypothesis was significant in both models.

The tenth directional hypothesis was: There will be a positive significant reciprocal effect between child's stress level and parent's stress level. This relationship was significant in the initial model tested (which was found to be misspecified) but was eliminated from subsequent analyses. A significant ($p < .05$) positive effect from parent stress to child stress was found in both the modified model and the validated model.

The final directional hypothesis tested was: There will be a significant positive reciprocal effect between child's satisfaction with the care arrangement and parent's satisfaction with the care arrangement. This hypothesis was not supported in the initial analysis; therefore, it was not tested in subsequent analyses.

Discussion of Results

Data from this study indicate that the conceptual model of the predictors and consequences of the amount of time children spend in self-care may be specified to substantively explain the contexts surrounding the use of self-care arrangements. The discussion will focus on three specific issues. They are as follows: (a) an interpretation of the specific significant causal relationships found in the "validated" model, (b) the implication of the differences found in the modified final model and the validated model, and (c) the implications of using LISREL for theory building.

Parental perceptions were modeled as being significant predictors of children's amount of time in self-care. Two variables that involved parent's perceptions of the context in which self-care was used were found to be significant. These were perceived voluntariness of the care arrangement and perceived accessibility of help for the child. The greater the parent's perception of the voluntary choice in using self-care arrangements, the less time children spent

in self-care. Empirically, this relationship has not been previously epxlored. Stewart (1981), in a study of third and fifth graders in self-care, found that voluntariness of the care arrangement accounted for the major proportion of the variance in parent's satisfaction with the care arrangement. Yet, she inferred that a possible tautological relationship existed between free choice and satisfaction, thus negating the relationship.

In the present research, it was hypothesized that no relationship would exist between perceived voluntariness of the care arrangement and amount of time in self-care. Those parents who use self-care arrangements most are at opposite ends of the continuum when compared demographically. The use of self-care is over-represented among highly educated, upper-income professionals as well as among less educated lower-income groups and single parents. The first of these groups probably voluntarily choose self-care from among a wide array of options because they value the development of independence. Parents represented at the other end of the continuum may involuntarily feel forced to choose self-care due to lack of available options (financial and care-givers). Therefore, a possible curvilinear rather than a linear relationship may exist.

This sample appears to be normally distributed based on measures of income, education and occupation, so a possible

skewness at one end of the continuum is not explanatory. Other factors which might increase the perception of voluntariness are a flexible work schedule and satisfaction with family income. Frequencies on the measure "flexible work schedule" show that over 65% of the respondents indicated that their work schedule was moderately or very flexible. On the measure "satisfaction with family income" 77% indicated that they were either very satisfied or generally satisfied with their income. Both of these factors could certainly increase one's perception of voluntary choice in child care arrangements.

During LISREL's automatic modification procedures a path from perceived voluntariness to parent's stress was specified. A significant negative relationship was found, indicating that increased perception of voluntariness was related to decreased parental stress. This finding is in line with the research on stress and learned helplessness, which indicates that a sense of control over situations reduces the stress response.

Parent perceived accessibility of help was also positively significantly related to children's amount of time in self-care. Stewart (1981) found that parents' greatest worries about self-care revolved around possible emergencies. This finding is consistent with the previously cited cognitive appraisal literature. The parent may perceive dangers

in the situation as well as the potential for positive child developmental outcomes. The parent's perception of the risk or "threat" involved in self-care is balanced or outweighed by this safety factor; therefore, time in self-care would be predicted to increase.

Perceived safety of the neighborhood was also significantly related to parent's stress but in a positive direction. The safer the neighborhood is perceived to be, the greater the parent's stress. Again, this was a data-driven rather than a theory-driven modification (specified during LISREL's automatic modification procedures). Due to lack of any substantive support for this relationship, caution is advised in citing this finding. For example, one might logically speculate that parents who exhibit stress may be the ones who choose "safer neighborhoods." A related data-driven modification specified a significant positive relationship from perceived safety of the neighborhood to parent satisfaction with the care arrangement. This finding is consistent with Hofferth and Cain's (1989) study of parental preferences in the use of self-care. The factor most affecting parental preference for self-care was the "quality" of the arrangement which in part was measured by the child's environment (residence).

The variable "amount of time in self-care" was found to decrease significantly parent's stress and child satisfaction

with the care arrangement. Only the hypothesized relationship between time in self-care and parent's satisfaction with the care arrangement was supported by this finding. In discussing this issue with parents, many indicate that self-care requires less of a hassle for both parents and children. If the use of self-care has been based on a careful assessment of the contexts in which it will occur and the child's ability to deal with the arrangement, then parents should experience fewer hassles with this arrangement. Certainly the negative relationship between amount of time in self-care and parent stress could be supported with the same argument. The greater the amount of time in self-care, the fewer the hassles, therefore the less stress.

The effect between additional time in self-care and a decrease in child satisfaction seems reasonable based on the lower end of the age range represented in this sample. This study was based on a sample of children normally distributed across kindergarten through the sixth grade. These data, as well as that from many other studies, support the finding that the use of self-care is related to age. Significantly more children use self-care in Grades 3 through 5 than in Kindergarten through Grade 2. Table 6 shows the frequency of self-care use in our sample of 812 elementary school children.

Child's level of stress showed a significant negative relationship to child's satisfaction with the care

Table 6

Description of After-school Care Arrangements

(N = 812)			
Different Types of After-school Care Arrangements Used			
Taken care of by mother	448		
Taken care of by father	168		
Taken care of in your home by a relative age 18 or older	65		
Taken care of in your home by a babysitter	12		
Taken care of at the home of a relative	151		
Taken care of at the home of a friend	64		
Taken care of at a child care center	70		
Takes care of self--alone at home	69		
Takes care of self and younger siblings at home	25	94	in self-care
Taken care of by older sibling at home	112	112	possibly in self-care
Other care arrangements	91		
Missing cases	8		

*Parents indicated all are arrangements used during the week

Frequency of Different Types of After-school Care Arrangements	
Only one care arrangement used	497
Two different care arrangements used	187
Three different care arrangements used	86
Four different care arrangements used	24
Five different care arrangements used	10
Missing cases	8

arrangement. While this relationship was not initially specified, it was explored during subsequent analyses, and finally estimated during LISREL's automatic modification procedures. Experience shows that the more a child is experiencing the stress, the lower her satisfaction in any area. Neither experience nor empirical data explains the significant positive effect of child stress on parent satisfaction with the care arrangement. Since this specification resulted during the automatic modification procedures, again caution must be advised in citing this effect.

The strongest effect in both the modified and the validated model was due to the impact of parent stress on child stress. These findings are consistent with a great deal of literature which exists in the child and family field. How children cope with divorce, remarriage, stepfamilies, handicapped siblings, and maternal employment is generally a direct result of how their parents cope.

Recommendations for Future Research

The use of structural equations modeling to develop and test a model of the predictors and consequences of the amount of time school-age children spend in self-care yielded a rich body of data. The results of this study answered many empirical questions and suggested strong support for theory building within the conceptual framework of family stress theory. Perhaps the most valuable aspect of this study is

not in the questions it answers but in the additional questions it suggests. If greater understanding of the complexities of self-care use is to be acquired, careful attention must be given to issues which are methodological and theoretical in nature and to issues that are substantive and practical. In the thoughtful balancing of these considerations, future studies may move us closer to understanding the complexities of self-care use.

Future studies should more fully explore and develop the conceptual framework of stress theory which grounded this study of the predictors and consequences of the amount of time children spend in self-care. The results of this study indicate that parent perception variables as well as the child and parent variables of stress and satisfaction are indeed viable and useful concepts that need to be more fully explored. Future studies should focus on expanding this framework to include concepts which address child perceptions as well as the resources and coping strategies of both children and parents.

A further extension of this conceptual framework would be to examine the effects of external family concepts such as history and culture, as suggested in Boss's (1988) model of family stress. The use of longitudinal designs would be particularly relevant to this focus. Through the use of longitudinal studies those difficult issues dealing with reciprocal causation could be "teased out." Also, the

relationship between early forms of child care used and the subsequent use of self-care could be examined.

The use of sophisticated analysis techniques such as structural equations modeling should be employed to compare various alternative causal models of self-care. Through the use of LISREL, secondary analyses could be performed on existing data (from previous studies) to begin these comparisons. Careful attention to measurement and modeling strategies will provide more grounded findings.

Further extensions of the family stress framework to other child care arrangements would be enlightening. What are the implications of this framework in addressing entry into day care, the use of multiple care arrangements, and for comparing the impact of various forms of care? Within this framework, child care should be examined as a potentially stressful "daily hassle" and as a "developmental milestone."

Careful attention should be paid to the variable time in self-care and length of its use. Within-group differences should continue to provide greater clarity concerning the nuances surrounding self-care use. Other concepts such as monitoring arrangements should be carefully modeled and examined.

The issue of self-care arrangements has major implications for children, their families, and their communities.

Practical concerns may be of critical importance at the individual and family level, while policy implications will impact on schools and communities. Careful consideration must be given to the intricacies of self-care arrangements. The use of sophisticated causal models which attempt to specify the reality and intricacies of the self-care arrangement will continue to provide us not only with "new" answers but "new" problems.

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APPENDIX A

CONCEPTUAL MODEL OF ANTECEDENTS AND CONSEQUENCES OF AMOUNT OF TIME IN SELF-CARE OF CHILDREN IN GRADES K-6

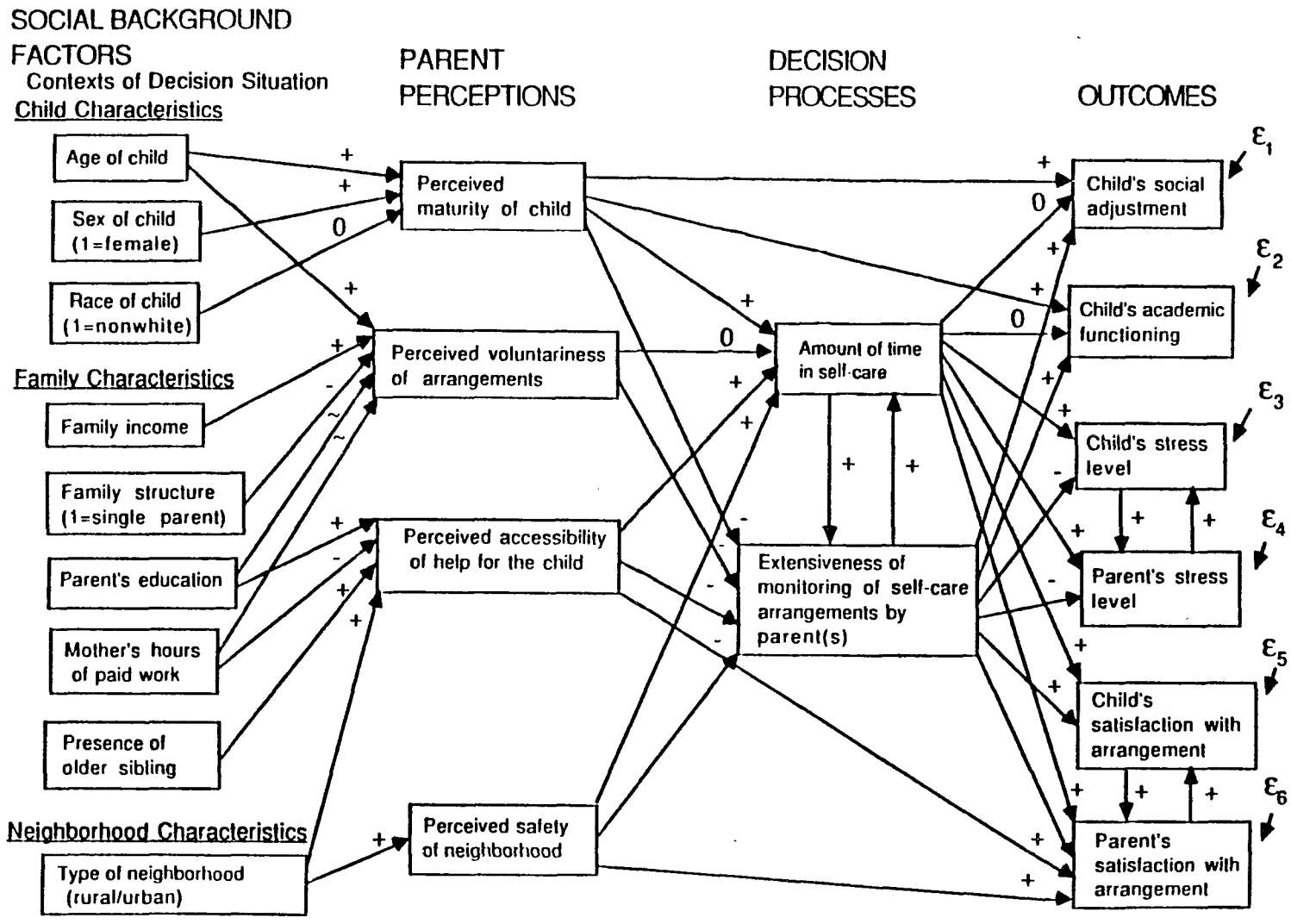

Figure 1. Conceptual Model of Antecedents and Consequences of Amount of Time in Self-Care of Children in Grades K-6
Note: ~ indicates a curvilinear relationship expected

Rodman, Payne (1988)

APPENDIX B

INSTRUMENTS FOR DATA COLLECTION

CHILD CARE ARRANGEMENTS FOR ELEMENTARY SCHOOL CHILDREN

Family Research Center

University of North Carolina at Greensboro

Greensboro, NC 27412

CHILD CARE ARRANGEMENTS FOR ELEMENTARY SCHOOL CHILDREN

CHILD'S NAME _____ For Office use only ID # _____

1. What is your relationship to this child?

___ Mother
___ Father
___ Grandparent
___ Guardian
___ Other (Please describe)_____

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR CHILD CARE ARRANGEMENTS

2. We would like information on the care arrangements you have used during the past four weeks for this child after school. Please check each arrangement that you have used during the past four weeks. (If you have used more than one type of care arrangement, please check all that you have used.) Also, please indicate how many hours per week you used each arrangement and how long you have been using it.

	Check if Used	Care Arrangement	Hours per Week Used	How long Used
a.	___	Taken care of by mother	_____	_____
b.	___	Taken care of by father	_____	_____
c.	___	Taken care of in your home by a relative age 18 or older.	_____	_____
d.	___	Taken care of in your home by a babysitter.	_____	_____
e.	___	Taken care of at the home of a relative.	_____	_____
f.	___	Taken care of at the home of a friend.	_____	_____
g.	___	Taken care of at a child care center.	_____	_____
h.	___	Takes care of self—alone at home.	_____	_____
i.	___	Takes care of self and younger brother(s) or sister(s) at home.	_____	_____
j.	___	Taken care of by older brother or sister at home.	_____	_____
k.	___	Other care arrangements. Please specify: _____ _____	_____	_____

3. Why have you chosen the care arrangement(s) you are using? (Check all that apply.)

Reason?	FOR THOSE YOU HAVE CHECKED HOW IMPORTANT IS THE REASON? Most	Very	Somewhat
___ You like it	___	___	___
___ Your child likes it	___	___	___
___ Other arrangements are too expensive	___	___	___
___ It is convenient	___	___	___
___ The arrangement that I prefer is not available close by	___	___	___
___ Other (please describe)			
_____	___	___	___
_____	___	___	___

4. Has your child expressed a preference for any particular type of care arrangement?

___ Yes
___ No

IF YES: Which care arrangement was preferred?

_____

_____

_____

5. Has your child mentioned a particular type of care arrangement that he/she dislikes?

___ Yes
___ No

IF YES: Which care arrangement was disliked?

_____

_____

6. How much difficulty with child care arrangements have you experienced in the last 4 weeks?

___ A lot
___ A moderate amount
___ A little
___ None at all

7. How satisfied are you with the care arrangement(s) you are presently using for this child?

___ Very satisfied
___ Somewhat satisfied
___ Not satisfied, not dissatisfied
___ Somewhat dissatisfied
___ Very dissatisfied

8. How satisfied is your child with the care arrangement(s) being used?

___ Very satisfied
___ Somewhat satisfied
___ Not satisfied, not dissatisfied
___ Somewhat dissatisfied
___ Very dissatisfied

9. Some parents let their children take care of themselves after school because the parents prefer it to other care arrangements. Others do it because they feel they don't have any choice. How about yourself?

___ I prefer it
___ I have no choice
___ My child(ren) never take care of themselves after school

10. Many children care for themselves during times other than after school. Are there such times during the week when this child cares for himself/herself; for instance just before school, while you go to the grocery store, etc.?

___ Yes
___ No

IF YES:

a. About how many times a week?
   ___ Every day
   ___ A few times
   ___ Once

b. About how many hours total per week?
   ___ Less than 1 hour
   ___ 1 - 2 hours
   ___ 3 - 4 hours
   ___ 5 - 7 hours
   ___ More than 7 hours

11. In case of an emergency while your child or children are at home alone, who could your child telephone for help? (Please check all that apply)

___ Neighbor
___ Mother
___ Father
___ Fire
___ Police
___ Other Relatives
___ Other (Specify): _____
___ Does not apply: Child or children are never at home alone

FOR THOSE THAT YOU HAVE CHECKED:

How long would it take for this help to arrive at your house?

	0-5 Minutes	6-10 Minutes	11-15 Minutes	16-20 Minutes	21-25 Minutes	26+ Minutes
Neighbor	___	___	___	___	___	___
Mother	___	___	___	___	___	___
Father	___	___	___	___	___	___
Fire	___	___	___	___	___	___
Police	___	___	___	___	___	___
Other Relatives	___	___	___	___	___	___
Other	___	___	___	___	___	___

12. How safe do you consider your neighborhood to be?

___ Very safe
___ Fairly safe
___ Fairly unsafe
___ Very unsafe

13. Is your child allowed to visit at a friend's house after school?

___ Yes
___ No

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR CHILD

14. How many friends of his/her own age would you say your child has?

___ None or hardly any
___ Only a few
___ About an average number
___ Many friends

15. How well would you say your child gets along with his friends?

___ Very well
___ Fairly well
___ Not too well

16. How well would you say that you and your child get along?

___ Very well
___ Fairly well
___ Not too well

17. On the average, how many nights per week does your child do homework?

___ 7 nights	___ 5 nights	___ 3 nights	___ 1 night
___ 6 nights	___ 4 nights	___ 2 nights	___ 0 nights

18. On an average school day, how many hours does your child spend watching T.V.?

____ hrs.

19. What time does your child usually go to bed during the week, on a school night?

____ p.m.

20. How often do you talk with your child about his/her plans for the coming day (e.g., what's happening with school or friends)?

___ Almost every day
___ Most days
___ Some days
___ Hardly ever
___ Never

21. How seriously does your child take his/her school work?

___ Very seriously
___ Seriously
___ 50/50
___ Not very seriously
___ Not at all seriously

INSTRUCTIONS: Please read each statement below. If the statement is TRUE, circle "1". If the statement is FALSE, circle "2".

		TRUE	FALSE
22.	On most afternoons, my child usually goes home right after school is over.	1	2
23.	My child usually has something planned to do in the afternoons when he/she gets out of school.	1	2
24.	My child usually does homework in the afternoon when school is out.	1	2
25.	Most afternoons, I know exactly where my child is when school is out.	1	2
26.	I expect my child to do chores around the house like cleaning, cooking, or yard work after he/she gets home from school.	1	2
27.	My child usually calls me (or my spouse) on the phone when he/she gets home from school.	1	2
28.	My child spends most of his/her free time after school by himself/herself.	1	2

29. How would you rate your child on each of the following, compared to most other children of his/her age?

	Much below Average	A Bit Below Average	About Average	A Bit Below Average	Much Above Average
Health	_____	_____	_____	_____	_____
Intelligence	_____	_____	_____	_____	_____
Behavior at school	_____	_____	_____	_____	_____
Behavior at home	_____	_____	_____	_____	_____

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR FAMILY

30. How many persons altogether live in your household (include yourself)? _____

How many of these persons are under 6 years old? _____

How many are age 6 through 13? _____

How many are 14 thru 17? _____

How many are 18 and over? _____

31. Your present age: _____ years

32. Your present marital status.

___ Married, spouse present
___ Married, spouse absent
___ Widowed
___ Divorced
___ Separated
___ Never married

33. Are you presently: (Please mark)

___ Employed
___ Unemployed
___ Full-time homemaker
___ Retired
___ Student

IF EMPLOYED: How many hours per week do you work?

___ 0 - 10
___ 11 - 20
___ 21 - 30
___ 31 - 40
___ More than 40

IF EMPLOYED: How much flexibility do you have in your work schedule to handle child care responsibilities?

___ A lot
___ A moderate amount
___ A little
___ None at all

IF MARRIED: Is your spouse presently:

___ Employed
___ Unemployed
___ Full-time homemaker
___ Retired
___ Student

IF EMPLOYED: How many hours per week does he (or she) work?

___ 0 - 10
___ 11 - 20
___ 21 - 30
___ 31 - 40
___ More than 40

IF EMPLOYED: How much flexibility does your spouse have in his/her work schedule to handle child care responsibilities?

___ A lot
___ A moderate amount
___ A little
___ None at all

34. Please indicate the highest grade or educational level completed by you and your spouse.

	YOU	YOUR SPOUSE
a. No formal education	_____	_____
b. Some grade school	_____	_____
c. Completed grade school	_____	_____
d. Some high school	_____	_____
e. Completed high school	_____	_____
f. Some college	_____	_____
g. Completed college	_____	_____
h. Some graduate work	_____	_____
i. A graduate degree	_____	_____

35. Please describe below your usual occupation.

TITLE: _____

What kind of work do you do? _____

Kind of company or business? _____

36. Please describe your spouse's usual occupation:

TITLE: _____

What kind of work does your spouse do? _____

Kind of company or business? _____

37. Please check one of the following categories to describe your family income from all sources and before taxes during the past year?

___ Under $10,000
___ $10,000 to $14,999
___ $15,000 to $19,999
___ $20,000 to $29,999
___ $30,000 to $39,999
___ $40,000 to $49,999
___ $50,000 and over

38. How many people were supported by that income? _____

39. So far as you and your family are concerned, how satisfied are you with how you are getting along financially?

___ Pretty well satisfied
___ More or less satisfied
___ Not satisfied at all

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR CHILD

DIRECTIONS: This scale consists of 40 items. For each item, mark a [ ] in the blank which best describes the behavior of your child. Please answer all items carefully.

	0	1	2	3	4	5
	Never	Almost Never	Some-Times	Often	Almost Always	Always
01. Worries	___	___	___	___	___	___
02. Daydreams	___	___	___	___	___	___
03. Easily excited	___	___	___	___	___	___
04. Easily distracted	___	___	___	___	___	___
05. Demanding	___	___	___	___	___	___
06. Helpless	___	___	___	___	___	___
07. Underachiever	___	___	___	___	___	___
08. Quiet, withdrawn	___	___	___	___	___	___
09. Selfish	___	___	___	___	___	___
10. Passive	___	___	___	___	___	___
11. Temper outbursts	___	___	___	___	___	___
12. Immature speech	___	___	___	___	___	___
13. Procrastinates, puts things off	___	___	___	___	___	___
14. Restless, overactive	___	___	___	___	___	___
15. Poor attitude toward school ..	___	___	___	___	___	___
16. Giddy, silly behavior	___	___	___	___	___	___
17. Defiant	___	___	___	___	___	___
18. Sensitive, easily hurt	___	___	___	___	___	___
19. Playful	___	___	___	___	___	___

	0	1	2	3	4	5
	Never	Almost Never	Some-Times	Often	Almost Always	Always
20. Pays attention	___	___	___	___	___	___
21. Participates	___	___	___	___	___	___
22. Talkative	___	___	___	___	___	___
23. Cares about schoolwork	___	___	___	___	___	___
24. Declining school grades	___	___	___	___	___	___
25. Picks on other children	___	___	___	___	___	___
26. Impulsive	___	___	___	___	___	___
27. Self-confident	___	___	___	___	___	___
28. Willful	___	___	___	___	___	___
29. Fights	___	___	___	___	___	___
30. Shy	___	___	___	___	___	___
31. Completes assignments	___	___	___	___	___	___
32. Nervous, jumpy	___	___	___	___	___	___
33. Easily upset	___	___	___	___	___	___
34. Detached, out of touch	___	___	___	___	___	___
35. Afraid of new situations	___	___	___	___	___	___
36. Independent	___	___	___	___	___	___
37. Mischievous	___	___	___	___	___	___
38. Able to take criticism	___	___	___	___	___	___
39. Cooperative	___	___	___	___	___	___
40. Stubborn	___	___	___	___	___	___

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF

Listed below are some statements describing a variety of feelings experienced by people at different times in their lives. Please place a mark [ ] in the blank which best describes how often you may have experienced any of these feelings during the past year: none or a little of the time, some of the time, a good part of the time, or most or all of the time.

	None OR A Little of the Time	Some of the Time	Good Part of the Time	Most OR All of the Time
1. I feel more nervous and anxious than usual				
2. I feel afraid for no reason at all				
3. I get upset easily or feel panicky				
4. I feel like I'm falling apart and going to pieces				
5. I feel that everything is all right and nothing bad will happen				
6. My arms and legs shake and tremble				
7. I am bothered by headaches, neck and back pains				
8. I feel weak and get tired easily				
9. I feel calm and can sit still easily				
10. I can feel my heart beating fast				
11. I am bothered by dizzy spells				
12. I have fainting spells or feel like it				
13. I can breathe in and out easily				
14. I get feelings of numbness and tingling in my fingers, toes				
15. I am bothered by stomachaches or indigestion				

	None OR A Little of the Time	Some of the Time	Good Part of the Time	Most OR All of the Time
16. I have to empty my bladder often				
17. My hands are usually dry and warm				
18. My face gets hot and blushes				
19. I fall asleep easily and get a good night's rest				
20. I have nightmares				

TEACHER RATING / SCHOOLWORK

Teacher _____ Date _____

Student _____ Student's Age _____

Student's Sex: Male ____ Female ____

1. Please rate this child in the following areas:

   (1 = Failing 3 = Satisfactory 5 = Superior)

   A. PERFORMANCE

Reading	1	2	3	4	5
Math	1	2	3	4	5

   B. EFFORT

Reading	1	2	3	4	5
Math	1	2	3	4	5

2. This child's grades have been:

   _____ 1 declining

   _____ 2 consistent

   _____ 3 improving

3. How would you rate this child in the following areas, compared to the average child of the same age:

   (1 = well below average; 2 = somewhat below average;
   3 = average; 4 = somewhat average; 5 = well above average)

A. Overall achievement in schoolwork	1	2	3	4	5
B. Overall attitude toward school and schoolwork	1	2	3	4	5
C. Overall behavior adjustment with teacher in classroom	1	2	3	4	5
D. Overall behavior adjustment with peers in classroom	1	2	3	4	5

THANK YOU FOR YOUR ASSISTANCE.

Teacher_____ Date_____ Student_____

BEHAVIOR RATING SCALE

OBSERVED BEHAVIOR	SCALE				
	Never (1)	Seldom (2)	Moderately Often (3)	Often (4)	Most or all of the time (5)
1. Gets into fights or quarrels with other students.	( )	( )	( )	( )	( )
2. Has to be coaxed or forced to work or play with other pupils.	( )	( )	( )	( )	( )
3. Is restless.	( )	( )	( )	( )	( )
4. Is unhappy or depressed.	( )	( )	( )	( )	( )
5. Disrupts class discipline.	( )	( )	( )	( )	( )
6. Becomes sick when faced with a difficult school problem or situation.	( )	( )	( )	( )	( )
7. Is obstinate.	( )	( )	( )	( )	( )
8. Feels hurt when criticized.	( )	( )	( )	( )	( )
9. Is impulsive.	( )	( )	( )	( )	( )
10. Is moody.	( )	( )	( )	( )	( )
11. Has difficulty learning.	( )	( )	( )	( )	( )

1	Never	You have literally never observed this behavior in this child.
2	Seldom	You have observed this behavior once or twice in the last three months.
3	Moderately often	You have observed this behavior more often than once a month but less than once a week.
4	Often	You have seen this behavior more often than once a week but less often than daily.
5	Most or all of the time	You have seen this behavior with great frequency, averaging once a day or more often.

Child's Name _____ Interviewer's Name _____

School _____ Teacher _____ Grade _____

INTERVIEWER: Before interview begins make sure that each child's participation is voluntary.

1. Where do you live?

___ House, single family or duplex
___ Townhouse or condominium
___ Apartment
___ Mobile Home
___ Other, specify _____

2. Tell me who lives with you?

	Relation to you	Age	Usually at home before you go to school	Usually at home in the afternoon
1.	_____	___	_____	_____
2.	_____	___	_____	_____
3.	_____	___	_____	_____
4.	_____	___	_____	_____
5.	_____	___	_____	_____
6.	_____	___	_____	_____
7.	_____	___	_____	_____
8.	_____	___	_____	_____
9.	_____	___	_____	_____
10.	_____	___	_____	_____

3. How do you get to/from school?

To School	From School
___ walk	___ walk
___ bicycle	___ bicycle
___ auto	___ auto
___ school bus	___ school bus
___ public bus	___ public buss
___ taxi	___ taxi
___ other: specify_____	___ other: specify _____

4. At what time does your school usually end each day?

_____

5. Where do you go after school?

___ home
___ relative's house
___ sitter's house
___ friend's or school mate's house
___ stay at school as long as possible
___ after-school program/daycare center
___ other: specify _____

6. Who is at your house (or the place in which you are cared for after school) when you get there (or who gets there with you)?

___ no one
___ mother
___ father
___ siblings: list sex and age
_____
_____
_____
_____
___ Relative: Specify
_____
_____
_____
___ sitter
___ friend or other non related person: Specify _____

7. At what time does the first adult usually arrive home (or at the place you go after school)?

time? _____ who is it? _____

adult already there ___

8. How do you get into your house (or the place you usually go) after school?

___ Someone is already there, specify _____
___ Has a key.
___ Other method of entry: Specify _____

9. If you lost your key (or otherwise could not get in) what would you do?

___ wait until an adult appeared
___ go to another location: Specify _____
___ obtain a key elsewhere: Specify _____
___ other: Specify _____

10. Do you usually telephone someone after you are home?

___ Yes ___ No

If yes, who _____

11. Does someone usually telephone you after you are home?

___ Yes ___ No

If yes, who _____

12. Are you allowed to play outdoors after you arrive home?

___ no
___ yes, whenever I choose
___ yes, occasionally, under these circumstances _____

_____

13. If you are allowed to play outdoors, where are you allowed to play?

___ yard only
___ only on the block
___ yard, block and/or park or school property
___ other, specify _____
___ no restrictions

14. Are you allowed to visit a friend's house after school?

___ yes, no restrictions
___ yes, with the following restrictions _____

_____
___ no

15. Are you allowed to have a friend over after you arrive home?

___ yes, no restrictions
___ yes, with the following restrictions _____

_____
___ no

16. Is there anything you would like to do that you usually cannot?

___ yes What: Specify: _____
___ no

17. Do you have a pet?

___ yes Describe it: _____
___ no

18. Do you have any chores you must do at home?

___ yes What are they: _____
___ no

19. Do you do them?

___ usually or most of the time
___ sometimes or occasionally
___ seldom or never

20. Are you allowed to watch anything you want to on T.V. or only certain things?

___ yes, anything
___ only certain things Specify: _____
___ not allowed to watch

21. How much T.V. do you watch each day?

___ 0 - 1/2 hours
___ 1/2 - 2 hours
___ 2 - 3 hours
___ 3 - 4 hours
___ 4 - 5 hours
___ 5 - 6 hours
___ 6 - hours
___ Child cannot make estimate

22. How happy or sad do you feel about what you do after school--between the time school is over and supper time?

___ very happy
___ a little bit happy
___ not happy, not unhappy
___ a little bit unhappy
___ very unhappy

23. What if something dangerous happened while you were alone (or with your brother or sister) in your house. What would you do?

___ call on parent: which one first, specify _____
___ call police or fire department (see if they know the number or where to obtain it _____)
___ leave the house (see where they would go _____)
___ handle the situation by oneself (query as to what the child would do _____)
___ call on a nearby adult (ascertain whom _____)
___ cry, hide or some other type of relative inaction

24. What did your parent/guardian tell you to do if something dangerous happened?

25. Do you ever practice what to do if something dangerous happened at your house, like have fire drills at home?

___ yes, often
___ yes, sometimes
___ no, never

26. Has anything dangerous, like a fire or someone breaking into your house, ever happened when you were at home?

___ yes Obtain as many details for each occurrence as possible
___ no

27. If you are home alone (or with your brother or sister) and you need help, are there adults living or working near you that you can call on?

___ yes, usually or most of the time
___ yes, occasionally or sometimes
___ no, very seldom

If yes, who are they and how would you get in touch with them?

28. All of us are afraid of something. What's the one thing you are most afraid of?
(record verbatim)

(probe) What are some other things you are afraid of?
(record verbatim)

(probe) Anything else?

29. What sorts of things do you do when you feel afraid?
(record verbatim)

(probe) Anything else?

30. All of us get pretty scared sometimes. How often do you feel pretty scared?

___ several times a day
___ about once a day
___ about once a week
___ about once a month

31. Who takes care of you when you are sick and can't go to school?

___ mother
___ father
___ sibling
___ self, no one
___ relative
___ sitter
___ other: Specify _____

32. Who takes care of you when there is no school and your parent(s) has/have to work or otherwise find it difficult to stay with you?

___ sitter
___ relative
___ sibling
___ self, no one
___ other: Specify _____

33. Who usually takes care of you during vacation periods, like summer?

___ mother
___ father
___ sitter
___ relative
___ sibling
___ self, no one
___ camp
___ summer school
___ other, specify _____

34. How satisfied are you with the care arrangement you have now?

___ like it a lot
___ like it a little
___ don't like it

35. If you could have any of these after-school care arrangements you wanted, which one would you choose?

___ take care of yourself--just you at home
___ take care of yourself (brother and/or sister at home)
___ cared for in your home by your mom or dad
___ cared for in your home by a babysitter
___ cared for in a friend's or relative's home
___ cared for in a day-care center
___ other (please describe): _____

36. Are there some things about your care arrangement that you really don't like?

Yes ___ No ___
(If yes): Tell me what they are.

_____

_____

37. Are there some things about your care arrangement that you really like?

Yes ___ No ___
(If yes): Tell me what they are.

_____

_____

I've enjoyed talking with you. Thank you for your time.

APPENDIX C

COVER LETTERS

FAMILY RESEARCH CENTER
Department of Child Development and Family Relations
University of North Carolina
GREENSBORO, N. C. 27412

November 28, 1988

Dear Parents:

The Family Research Center at the University of North Carolina at Greensboro and the North Carolina Department of Public Instruction are co-sponsors of a study that will begin next week in your school. The title of the study is "The Predictors and Consequences of the Amount of Time School-Age Children Spend in Self-Care Arrangements." One purpose of the study is to find out what type of care arrangements parents are using for their children and how satisfied parents and students are with these care arrangements. Another purpose is to determine under what conditions the use of various child-care arrangements may have positive or negative outcomes for children and their parents.

Many family and child specialists feel that it is important to study child care arrangements because so many children today are using a variety of care arrangements before and after school, and we know very little about these arrangements. We are especially interested in self-care arrangements,--children looking after themselves alone or with a brother or sister at home,--because many families are using this arrangement and many more are likely to use it in years to come.

We believe that our study will be helpful to parents in the future as they make decisions about child-care arrangements for their children.

Next Monday, December 5, your child will bring home a questionnaire for you to fill out. A cover letter with my number will be included. If you have questions or concerns about the questionnaire or the study at that time, please give me a call. Your cooperation is needed for this study to be successful.

Sincerely,

Chris Payne
Chris Payne
Project Director

CP/ttr

FAMILY RESEARCH CENTER
Department of Child Development and Family Relations
University of North Carolina
GREENSBORO, N. C. 27412

December 5, 1988

Dear Parents:

Last week you received a letter from me explaining a study your school is participating in entitled "The Predictors and Consequences of the Amount of Time School-Age Children Spend in Self-Care Arrangements."

The study is being co-sponsored by the Family Research Center at the University of North Carolina at Greensboro, and the North Carolina Department of Public Instruction. Child and family specialists are interested in learning more about the different child care arrangements that parents are using. Of particular interest are "self-care arrangements." These are arrangements in which children look after themselves before or after school, alone or with a brother or sister. Trends indicate that the large numbers of families using this type of arrangement will probably increase in the future.

The questionnaire enclosed with this letter is a major part of the study. With your help, we hope to obtain useful information about the important topic of child care. I think you will be able to fill it out in about 20 minutes. Your child has been asked to return it to school within the next two days.

Any information you volunteer on this questionnaire will be absolutely confidential. No one except the research team at the University will see your answers and no names will ever be mentioned in reporting results.

If you have any questions or concerns about the study, I can be reached at (919) 299-9975 in the evenings and will be glad to talk with you.

Thank you very much for your time and cooperation.

Sincerely,

Chris Payne
Project Director

CCP/ttr

FAMILY RESEARCH CENTER
Department of Child Development and Family Relations
University of North Carolina
GREENSBORO, N. C. 27412

Dear Parent:

The Family Research Center of the University of North Carolina at Greensboro, with the cooperation of the North Carolina Department of Public Instruction, is carrying out a study about child care arrangements. We are interested in talking to children about what they do before and after school.

We would like to interview your child. This will be done at school and will take about 30 minutes of class time. In order to shorten the interview time, we would like to get information about school attendance and grades from your child's school records. The information that we collect will be kept confidential. Results will be reported for groups of children, and it will be impossible to identify any individual child.

This study has been approved by the State Department of Public Instruction and your local school system. If you would like to have more information about the study you may call me at (919) 334-5075. The study will provide useful information about child care and we hope that you will give us your cooperation. Please sign the blank below if you agree to let your child take part in this study.

Sincerely,

Chris Payne
Project Director

I give permission for _____ to participate in the study.

Signed _____

Please check here if you would like to receive a summary of the results of the study after it has been completed. _____

FAMILY RESEARCH CENTER
Department of Child Development and Family Relations
University of North Carolina
GREENSBORO, N. C. 27412

November 28, 1988

Dear Teachers:

Enclosed are addressed envelopes for the students in your class. These contain a cover letter, a questionnaire for parents to fill out, and a parental consent form for their child's participation. These will be returned to you via their child. Please distribute these questionnaires Monday, December 5. If you have absent children, please give out those questionnaires during the afternoon of the day the children return to school.

Please explain to the children what is in the envelope and ask that they return the questionnaires the next day. Mark off the children as they return questionnaires, using the roster on the front of your envelope. If a child loses a questionnaire, I have included a couple of blank envelopes ready to fill in with the child's name if needed. The questionnaires will be picked up on Monday, December 12.

If you have questions or concerns about the study at any time, please feel free to contact me (Day 919-334-5075, Evening 919-299-9975). Thank you very much for your time and help! I hope this goes smoothly for you and isn't too time consuming.

Sincerely,

Chris Payne
Project Director

CP/tr

Enclosure

FAMILY RESEARCH CENTER

Department of Child Development and Family Relations
University of North Carolina
GREENSBORO, N. C. 27412

November 21, 1988

Dr. David E. Davis
Superintendent
Tyrell County Schools
Road Street, Box 328
Columbia, NC 27925

Dear Dr. Davis:

The Family Research Center of the University of North Carolina at Greensboro, with the cooperation of the North Carolina Department of Public Instruction, is conducting a research project concerned with the predictors and consequences of the amount of time school-age children spend in self-care ("latchkey") arrangements. Your school system has been randomly selected as one of ten in North Carolina to participate in this study.

The requirements of this project are as follows:

1) a total sample of 7 classrooms from your system will be selected. These will be derived through the random selection of a K-6 school (or pair of schools) within your system and the selection of a class from each grade level K-6 within this school;

2) teachers within these classes will send home a package with explanatory letter and questionnaire to parents of all students in their class;

3) parents will return completed questionnaires to teachers, along with signed consent forms for their children's participation;

4) teachers will complete a brief behavior and performance rating checklist on those students whose parents have given consent;

5) students whose parents have given consent will be interviewed (approximately 20 minutes) by an interviewer from the Family Research Center;

6) completed parent questionnaires and teacher ratings will be collected by Family Research Center interviewers.

The information collected in this project on individual children will, of course, remain confidential. The Family Research Center will report only the general findings.

We would greatly appreciate the cooperation of your school system in this important research. The results of this study will aid parents in making appropriate child-care decisions. It will also provide school systems and policy-makers with better information about the conditions under which self-care has positive outcomes for children and families and under what conditions it may have negative outcomes.

Sincerely,

C. Chris Payne
Project Director

APPENDIX D

LISREL PROGRAM FOR EXPLORATORY RUN

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                    L I S R E L  VI - VERSION 6.6

                                 BY

                    KARL G JORESKOG AND DAG SORBOM
PATH ANALYSIS ON ONE HALF OF DATA FULL MODEL
THE FOLLOWING LISREL CONTROL LINES HAVE BEEN READ :

DATAPARAMETERS NINPVAR=11 NOBS=337 MATRIX=KM
LABELS FORMAT
*
'TIME SC' 'PARSAT' 'VOL.' 'TIME2' 'ACCESS.' 'SAFETY' 'CSTRESS' 'PSTRESS'
'ACAD.' 'ADJUS.' 'CSAT.'
KM SY FORMAT
*
1.00
.2201 1.000
-.3677 -.1001 1.000
.3322 .1485 -.4350 1.000
.2825 .0257 -.4393 .4355 1.000
-.0355 .2263 .1319 -.1114 -.1476 1.000
.0869 .2144 -.0539 .0895 -.0119 .1663 1.000
-.0558 .1132 -.1412 .0675 .0666 .1262 .4356 1.000
.0119 -.0267 -.0095 .0018 -.0092 -.1016 -.3177 -.2150 1.000
-.0015 .0726 -.0022 -.0322 -.0564 .0221 .2638 .1047 -.4506 1.000
-.0757 -.1465 .0980 -.0285 -.0619 .0076 -.2272 -.1129 .1472 -.0625 1.000
SD FORMAT
*
1.884 .7176 .7460 .9885 1.7058 .5722 17.6022 1.1616 1.1041 .1537 .5730
SELECT FORMAT
*
1 10 9 7 11 2 3 5 6 /
MODEL NYVAR=6 NXVAR=3 NETA=6 NKSI=3 LX=ID,FI LY=ID,FI TE=DI,FI TD=DI,FI C
GA=FI,FU BE=FU,FI PS=DI,FR PH=SY,FR
VA .1 TE(1,1) TE(2,2) TE(6,6)
VA .2775 TE(3,3)
VA .2604 TE(4,4)
VA .2944 TE(5,5)
VA .10 TD(1,1) TD(3,3)
VA .0975 TD(2,2)
VALUE 0. BE(1,1)-BE(6,6)
FREE GA(1,1)-GA(1,3) GA(6,2) GA(6,3)
FREE BE(2,1) BE(3,1) BE(4,1) BE(5,1) BE(5,6) BE(6,1) BE(6,5)
FREE BE(5,6) BE(6,5)
OU GL ALL
```